RAINBOW PACKING

Makes a Steam Joint Instantly.

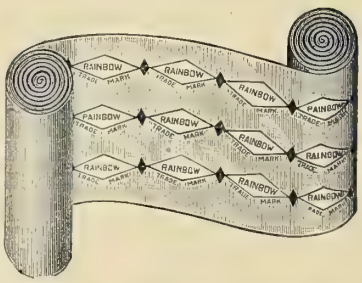
HONEST JOHN.

MR. JOHN H. DEMING.
General Superintendent Peerless Rubber Manufacturing Co.

THE COLOR OF RAINBOW IS RED.

NOT AFFECTED BY OILS, AMMONIA LIQUORS, STEAM HEAT OR ALKALIES.

None genuine without the Trade-Mark.



RAINBOW PACKING HAS 3 ROWS OF DIAMONDS IN BLACK EXTENDING THROUGHOUT THE ENTIRE LENGTH OF EACH AND EVERY ROLL.

Fac-simile of a Roll of Rainbow Packing.

Who invented and who is the only man in the world who can make or ever has made

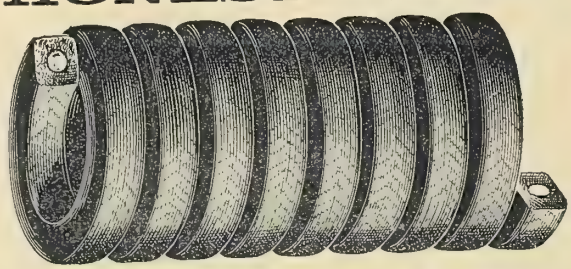
Rainbow Packing.

RAINBOW GASKETS are especially adapted for Low Pressure Steam and Hot Water Heating Apparatus.

PEERLESS DISCS for Russell, Frink, Walworth, Jenkins, Lorain and Kelly & Jones Valves.

"HONEST JOHN."

Made in both Straight and Spiral Form.



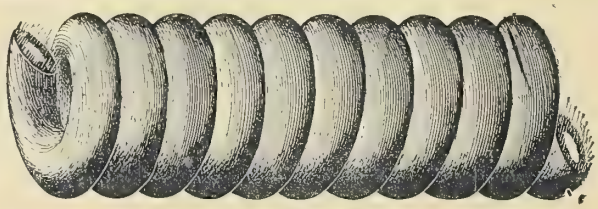
Once Tried, Always Used.

Put up in Boxes.

HYDRAULIC RAINBOW CORE PACKING.
The Best Hydraulic and Cold Water Packing in the World.

Hercules Combination.

Always Tight. Leaves the Stem Clean.



Will Hold 400 lbs. Steam.

Metallic Stop Valve Packing.

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16 Warren Street, New York.

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DANIEL'S PATENT P. P. P. DIAGONAL

Rod Packing

For all Purposes. Steam, Water, Oil, Ammonia, Air, Etc.

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BRANCH OFFICES.
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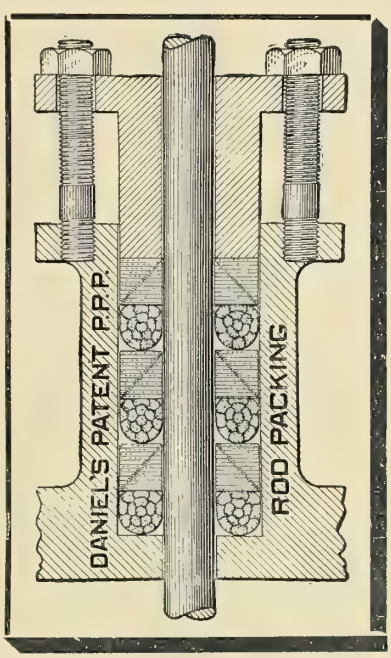
Wedges which under slight pressure slide on each other, compensating for the wear made by the rod, and adjusts itself to all irregularities of rod and box. An absorbent oil cushion, insuring perfect lubrication.



The Most Elastic Packing,
The Cheapest Packing,
Less Friction on the Rod than any other.
Wears the longest and gives the least trouble and the greatest satisfaction.

BEWARE OF INFRINGERS AND IMITATORS.

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Have you seen Daniel's Patent Packing Gauge for Measuring and Cutting accurately Rod Packing, and **given away?**

Manufactured ONLY by

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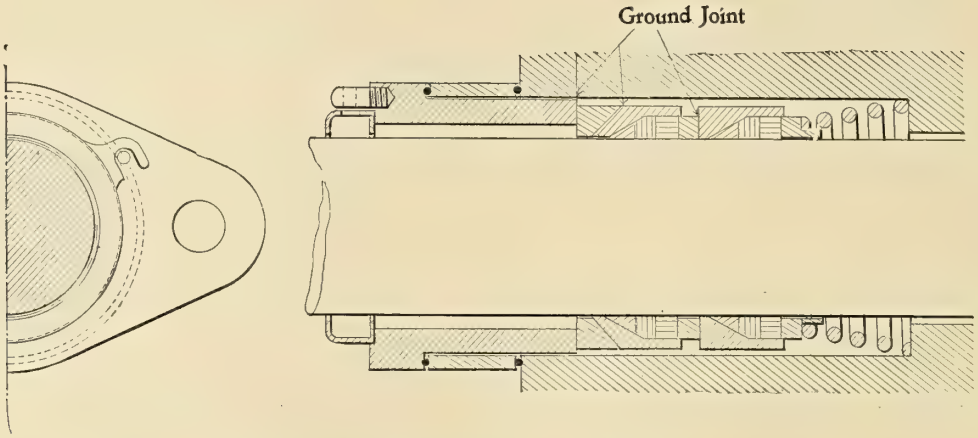
409 MARKET STREET, PHILADELPHIA, PA.

We have 90,000 packings in use. We think this fact speaks for the quality of our goods.

It is the CHEAPEST as well as THE BEST PACKING.



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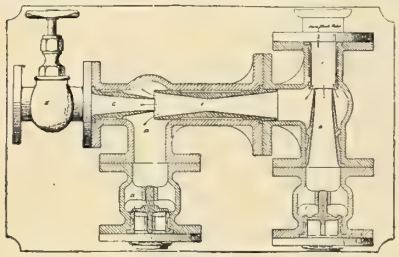

Feed Water Circulator.

For Pipes of all kinds under Pressure, for Steam, Water or any other fluid.

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METALLIC PACKINGS

Of different designs for stuffing boxes of engines, pumps, etc.

Flexible Tubular Metallic Packing for Slip Joints on Steam Pipes.

Metallic Gaskets for all kinds of Flanges.

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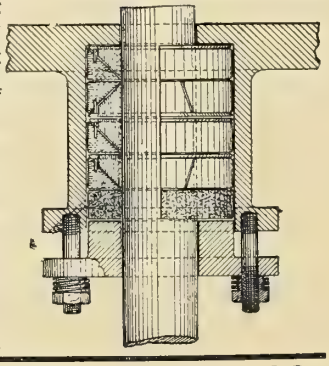

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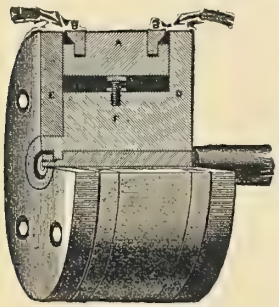

SELF-ADJUSTING STEAM CYLINDER PACKING

for **STEAMSHIP, YACHT, TUGBOAT,** and all classes of **ENGINES,** high and low pressure.

Makes piston perfectly tight with minimum of friction. Increases revolutions of wheel, saves fuel, secures true cylinder. Owing to its immediate action, engines can be started, stopped, or reversed instantly. Used in the engines of the leading Steam Yachts and Vessels.

We guarantee no leakage of Steam over piston.

Manufactured and licenses granted to manufacture under our patents by

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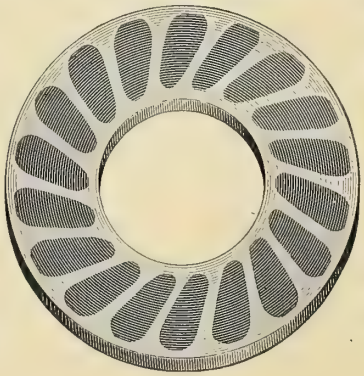

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BUSHINGS, BEARINCS AND **WASHERS.**

For all kinds of

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Can be used with without Oil.

Marine Engine For Sale.

One second hand Triple Expansion Marine Engine, 4½ x 7½ x 12 inches, 8 inch stroke, equal to new, will be sold cheap.

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These Compounds are unequalled. They give satisfaction where others fail. They are especially adapted for use in Marine Steam Plants. WRITE FOR DESCRIPTIVE CIRCULAR.

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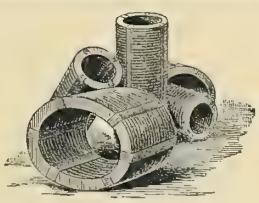

ANY SIZE OR SHAPE, FOR THE SMALLEST HAND HOLE OR THE LARGEST CYLINDER TOP. : : : :

Our various grades of stock are adapted for any and all kinds of joints, and will give entire satisfaction under the highest pressures and most severe conditions.

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are made either with a rubber core or a canvas core and will keep stuffing boxes tight with less friction than any other packing.

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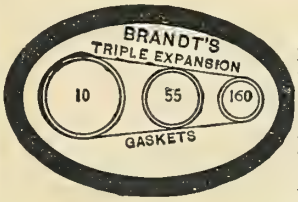

are the best man-hole and hand-hole gaskets for high pressures.

BRANDT'S PUMP VALVES will stand hot water and oils.

The best grades of **Rubber Hose, Joint Packings** and other **Engineers' Stores.**

Orders filled promptly and satisfaction guaranteed. Your trade is solicited.

THERE IS NO SATISFACTORY SUBSTITUTE FOR....

GARLOCK'S HIGH-GRADE PACKINGS.

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AND HOLD THE RECORD FOR QUALITY, DURABILITY AND ECONOMY.

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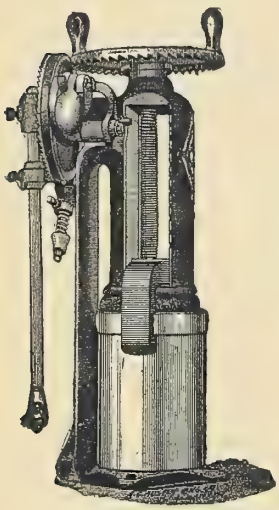
National Automatic Lubricator, Patented.



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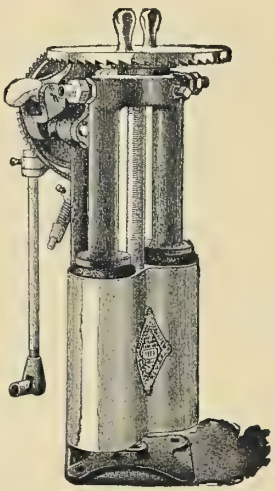
Positive, Reliable,
Economical, Satisfactory.

Guaranteed to save 30 to 60 per cent of oil and give better results to frictional parts. Not affected by change of temperature or consistency of oil.

If you are thinking of getting a New Engine or Pump, specify this Lubricator. It will be money in your pocket.



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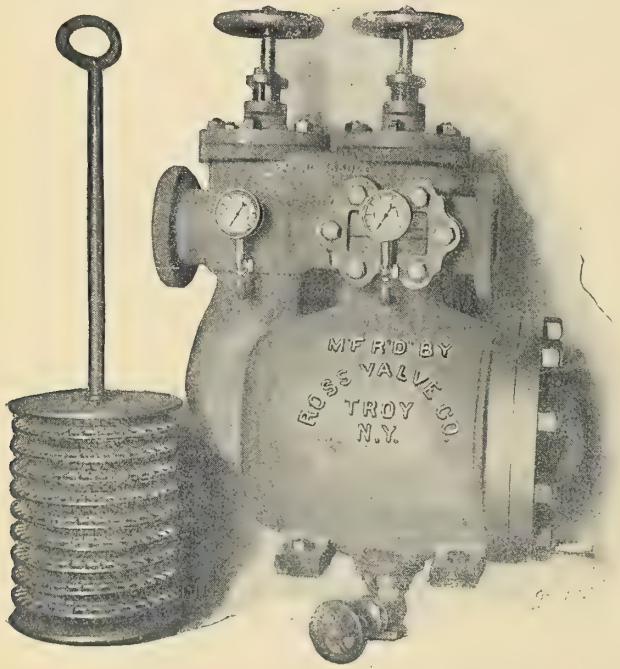

In use on the Steamships Majestic, Doric, Ionic, Belgic, Gaelic, Civic and Bovic of the White Star Line; Kaiser and Salla of the North German Lloyds; Armenian, Victorin and Cestrian of the Leyland line; the Kaiser Wilhelm der Grosse of the Hamburg-American line, and many other vessels.

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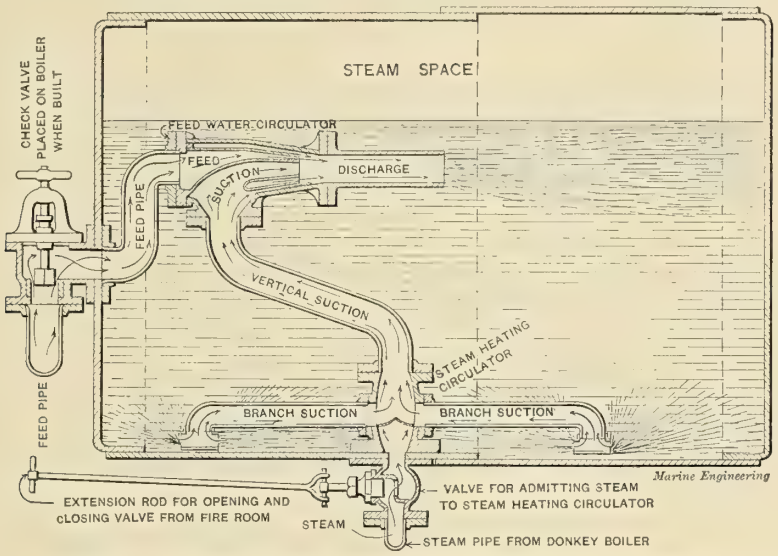
THE EQUILIBRIUM CIRCULATOR.

For heating and circulating the water in steam boilers; increases the steaming capacity from 5 to 15 per cent., thus saving in coal consumption. Equalizes expansion, thereby preventing leaks due to unequal strains, thus saving cost of repairs. By causing a rapid movement of the water over the heating surfaces, the steam bubbles are carried to the surface as soon as formed, thus preventing the disturbance which often causes Foaming or Priming. This Apparatus has been used with great success to stop Foaming, and has been very successful in stopping Pitting, which often causes the total destruction of a boiler in a few years.

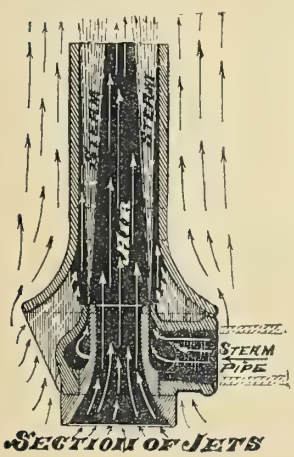


SECTION VIEW OF CIRCULATING APPARATUS ON LARGER SCALE THAN BOILER

Circulators are used in steamships of the American Line, Merchants & Miners' Line, Norwich Line, New Haven Line, and many of the most modern yachts, merchant vessels, ferry boats and excursion boats.

The Improved Annular Steam Jet.

The most powerful and economical Jet on the market, costing but little more than a plain ring jet, giving a draft equal to a fan, and a suction varying from $\frac{1}{2}$" to $1\frac{1}{2}$" of water. Has given a third more power than the famous Nickols Jet with less steam consumption.



SECTION OF JETS

Jets are used on steamers of the following lines:

Wilmington Steamboat Co.,
Norwich Line,
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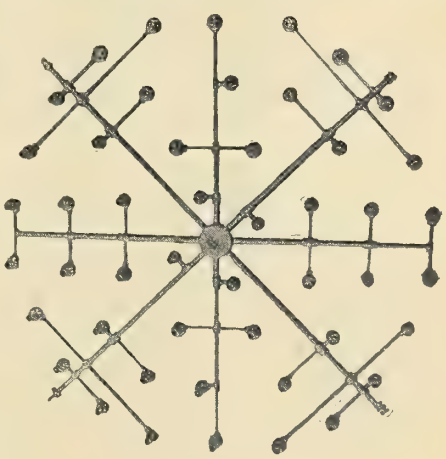
The Hartford Line,
The Plant Line,
and in many steam vessels in all parts of the country.

For further particulars send to the manufacturers,



PLAN OF JET.

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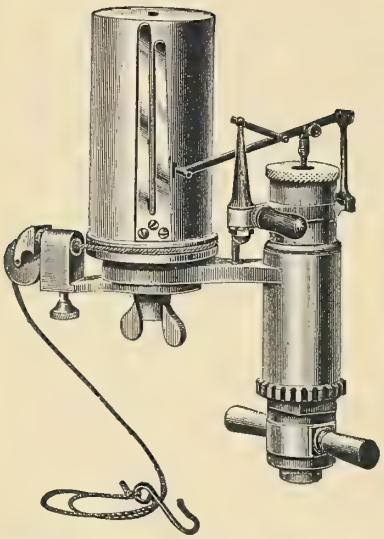

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Original Thompson Indicator.

IDEAL REDUCING WHEEL, PANTOGRAPH AND PLANIMETER.

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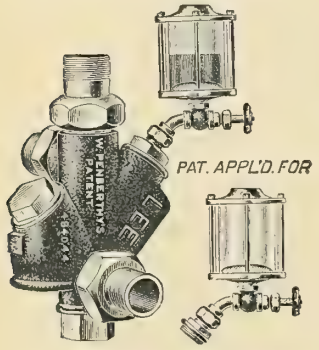

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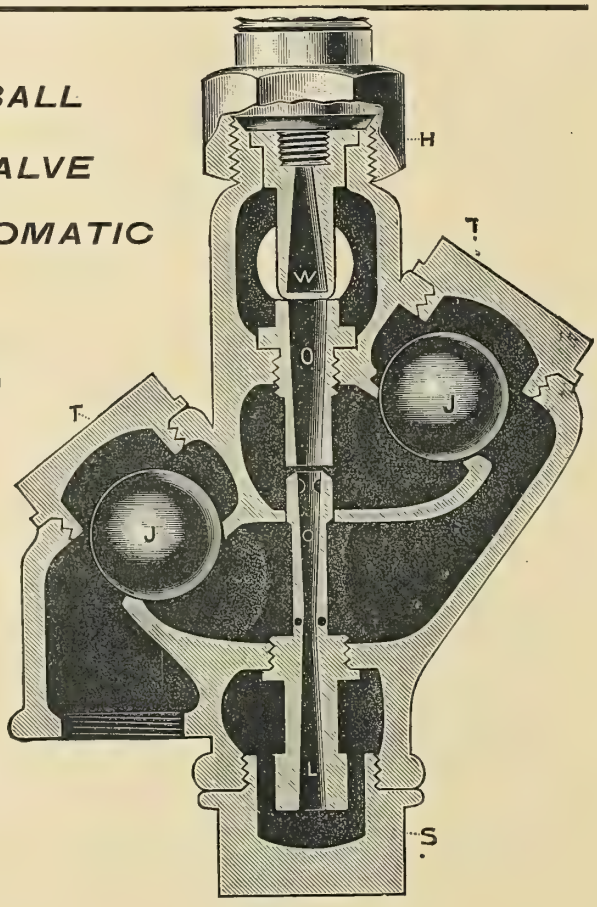

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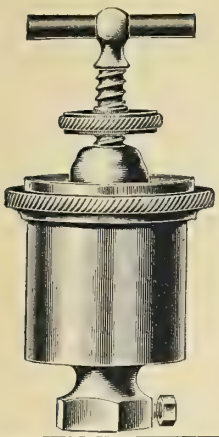

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Standard Improved

AUTOMATIC GREASE CUP.

PHILLIPS' PAT. OIL CUPS,

Lubricators, Etc.

Manufactured only by

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FEED WATER HEATER
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In use on over 40 steamers on the lakes. Under various steam pressures up to 250 pounds. Send for Catalogue.

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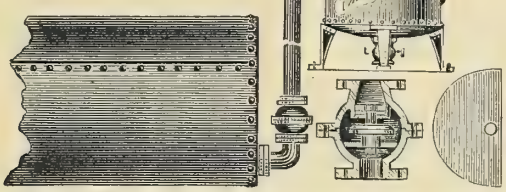

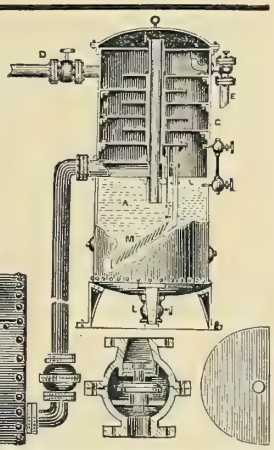

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The Holly Gravity Return System

Is the only Automatic and perfectly reliable method of returning all the high pressure condensation and entrainment from Main Pipes, Separators, Jacket Cylinders, to Boilers, without loss of temperature; saving Fuel, Repairs, Packing, &c.

No attention required, as there are **no working parts.**

They work in **heaviest seas** as well as on land, constantly taking the water from the Receivers back to Boilers from the time steam reaches a few pounds pressure till it goes down at the end of the voyage.

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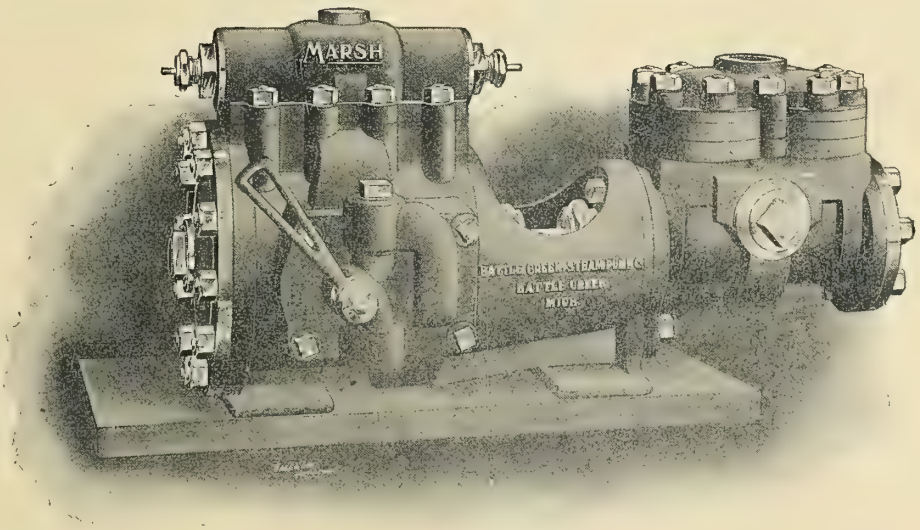
28 HIGH STREET,
HARTFORD, CONN.

BATTLE CREEK STEAM PUMP CO.,

Marsh Yacht Pump.



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NOTE: Two Marsh Yacht Pumps on the "Ellide," the fastest yacht in the world.

More than 7 Steamship Lines equipped with Refrigerating Machinery.

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935 Drexel Bldg., Philadelphia.

Our Machine for YACHTS requires 5 ft. square only.

BINDERS for MARINE ENGINEERING Handsomely Bound in Cloth, **BY MAIL, 75c.**

The Mabbs Hydraulic Packing.

USED ON FASTEST ATLANTIC LINERS.

This packing has no equal for Propellers, Stern Pipes, Water Works, Deep Mine Pumps, Ice Machines and all machinery using cold water.

It is the most pliable and durable Hydraulic Packing in the market. *It can be worn entirely out, simply by adding new packing when required, and not disturbing the old.* It will never cut a rod or cylinder, on account of the nature of the material, it being always a good lubricant in itself.

MABBS HYDRAULIC PACKING COMPANY,

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AIR-MOVING MACHINERY.

FOR

VENTILATION AND FORCED DRAFT.

Bulkhead Fans for any service where not more than FOUR INCHES water column pressure is required. Placed in a bulkhead a SEYMOUR FAN takes up very little room and is most efficient.

BELT-DRIVEN FANS.
DIRECT CONNECTED ELECTRIC FANS.
DIRECT-CONNECTED STEAM FANS.
DIRECT-CONNECTED WATER MOTOR FANS.
360 PATTERNS OF SPECIAL FANS.

Send for Catalogue.

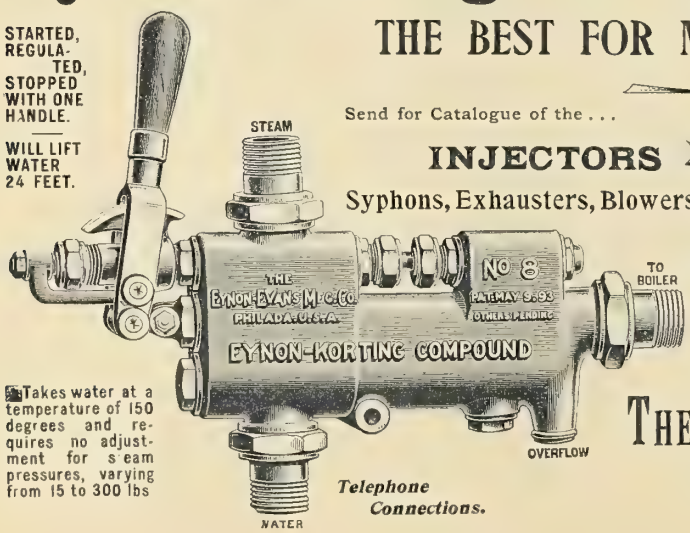
J. M. SEYMOUR, Jr.,

No. 43 Lawrence Street, Newark, N. J.

Eynon-Korting Compound Injector.

STARTED, REGULATED, STOPPED WITH ONE HANDLE.

WILL LIFT WATER 24 FEET.



Takes water at a temperature of 150 degrees and requires no adjustment for steam pressures, varying from 15 to 300 lbs

Telephone Connections.

THE BEST FOR MARINE, LOCOMOTIVE AND STATIONARY BOILERS.

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INJECTORS **CONDENSERS**

Syphons, Exhausters, Blowers, Ventilators, Blast Nozzles, Bilge-Pumps, Etc.

BRONZE FOUNDRY DEPARTMENT:

Copper Castings, Phosphor and Manganese Bronze, Red and Yellow Brass Castings.
Capacity 10,000 lbs. per heat.

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AUTO-POSITIVE

Automatic. Positive.

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Automatic. Positive.

New Principles.

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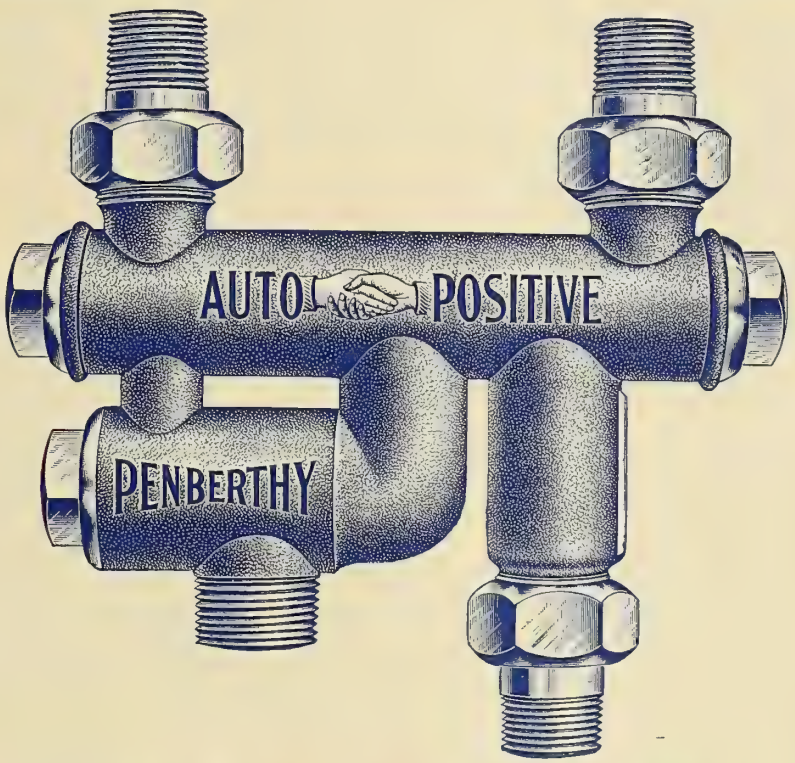

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Only Six Working Parts.

HIGH PRESSURE and HOT WATER **MARINE INJECTOR.**

WORKING RANGE

12 to 15 lbs. low to 230 to 235 lbs. high steam, or
30 " 35 " " " 275 " 290 " " "

HANDLES HOT WATER

143 to 145 degrees and under with 75 to 100 lbs. steam.
133 " 135 " " " " 50 " 120 " "
118 " 120 " " " " 25 " 150 " "
98 " 100 " " " " 18 " 175 " "

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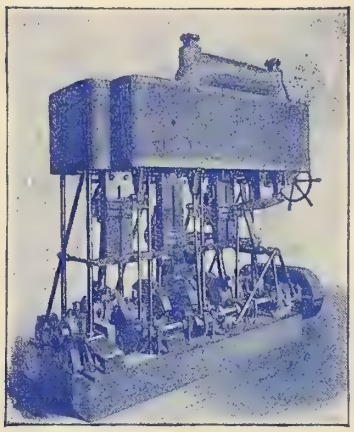

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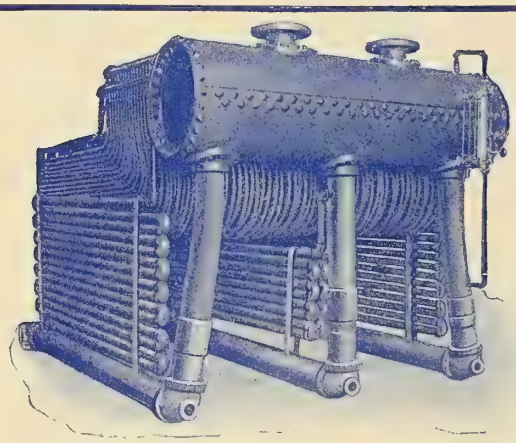

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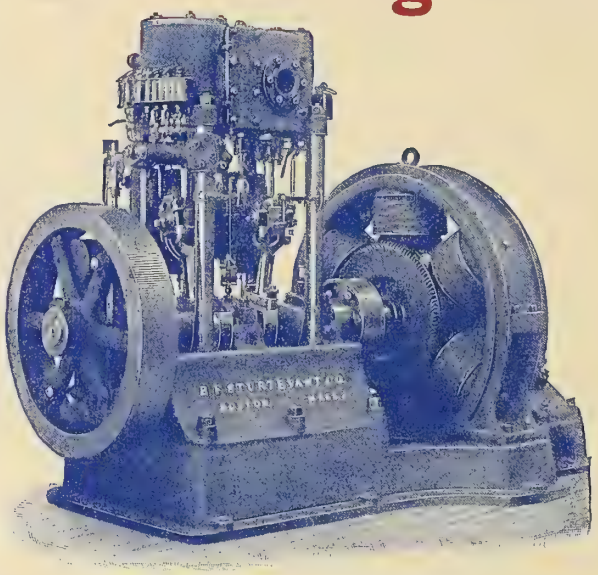

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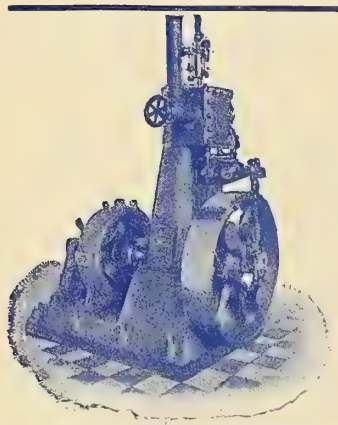

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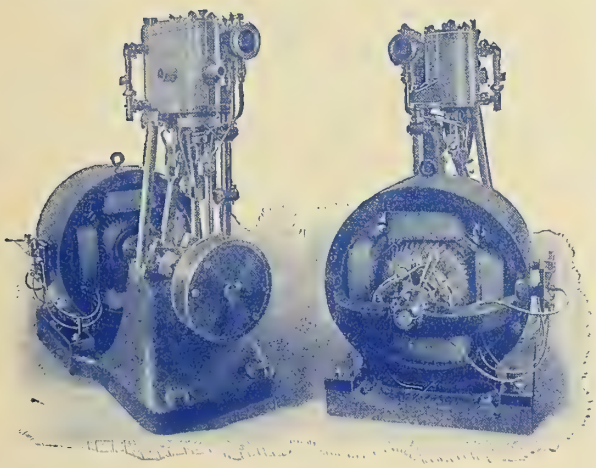

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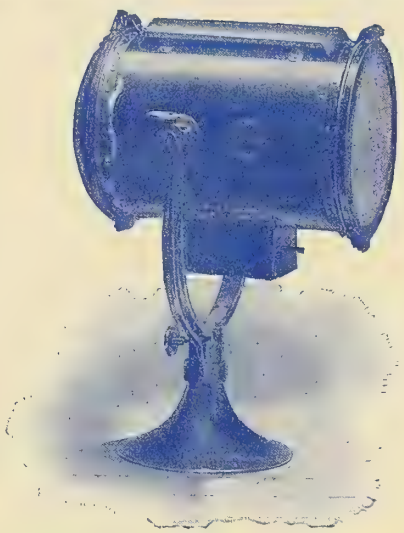

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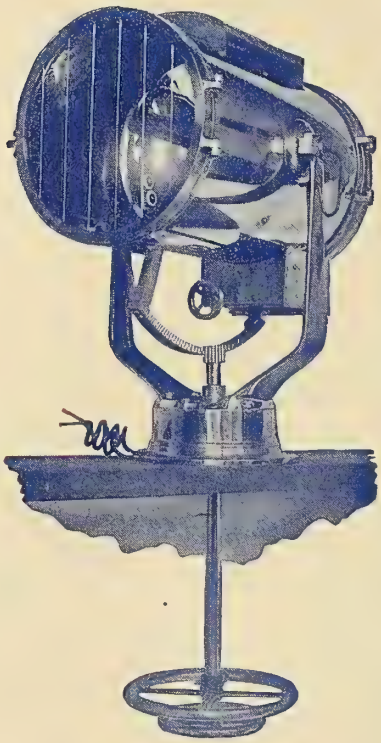

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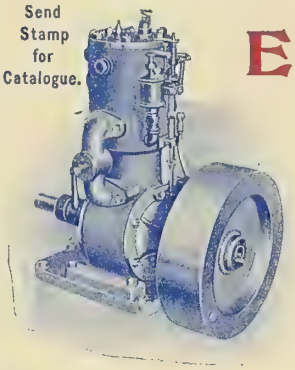

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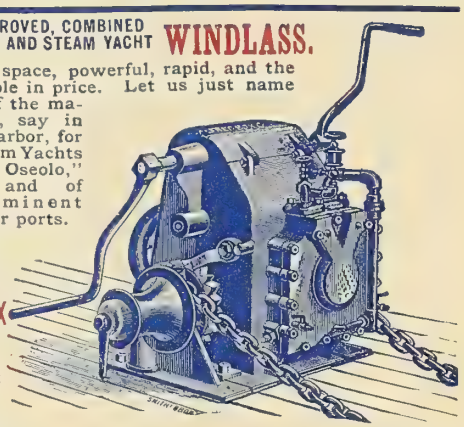

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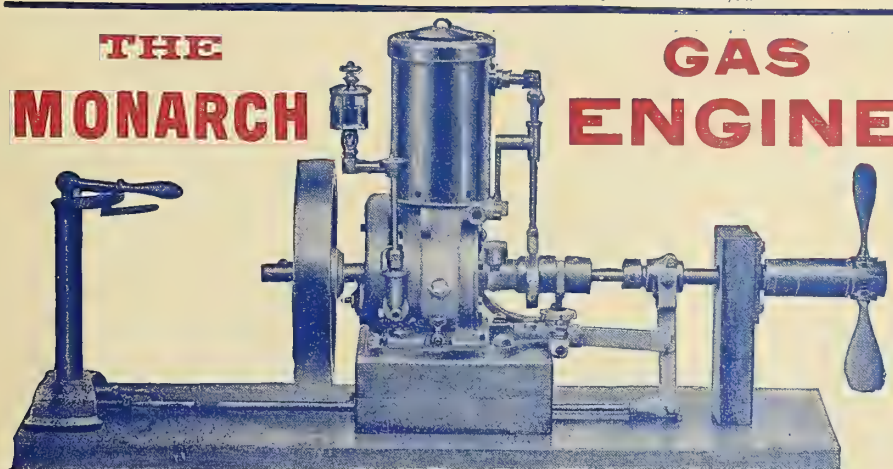

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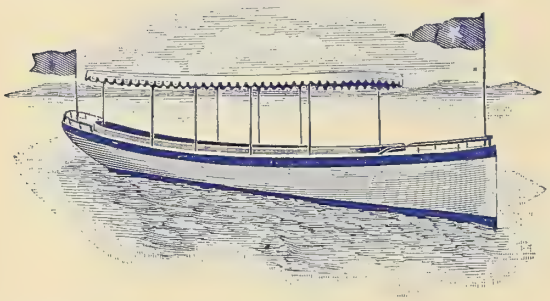

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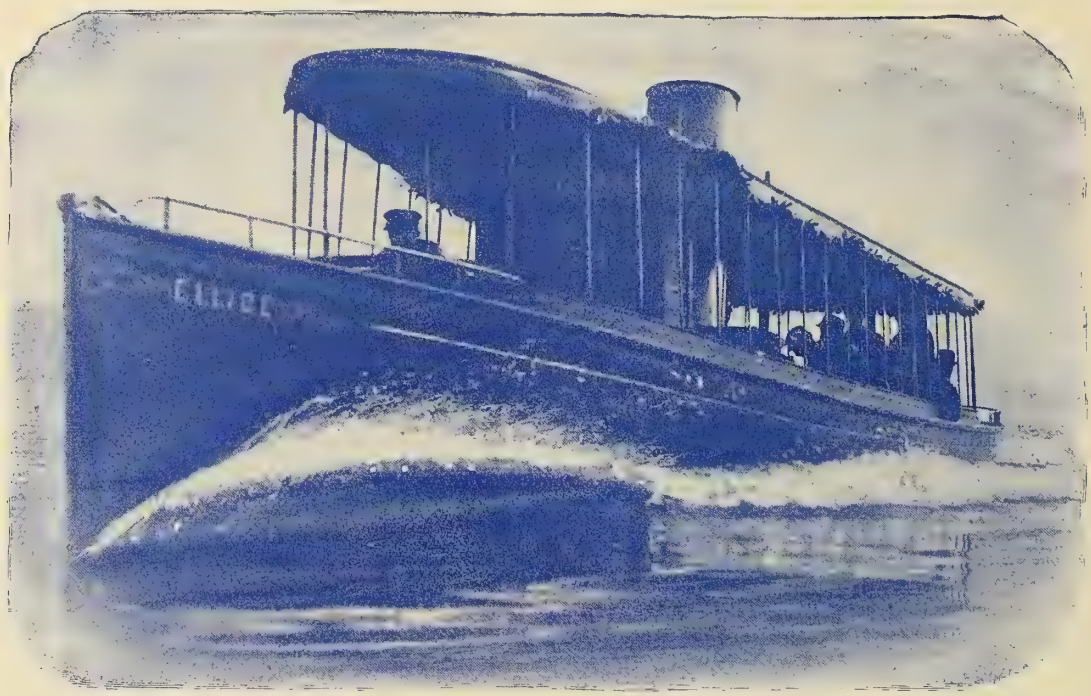

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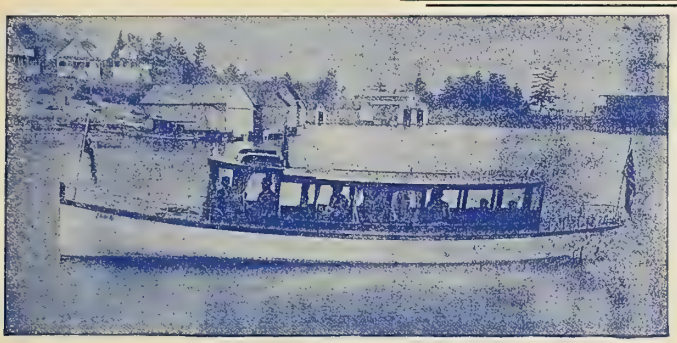

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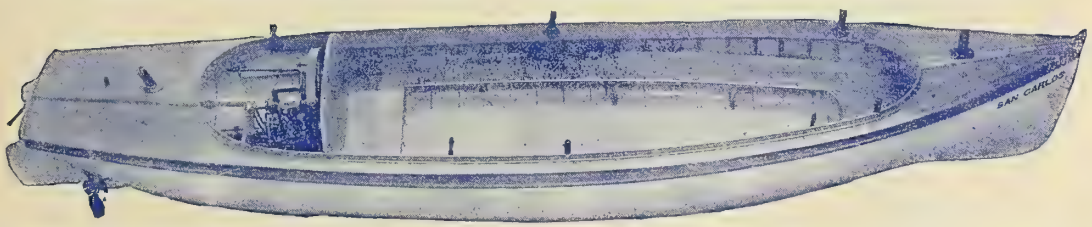

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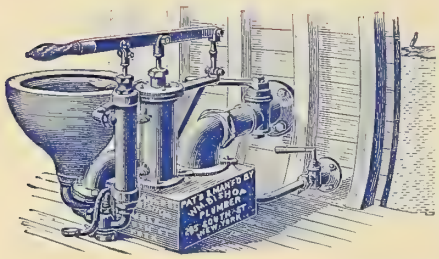

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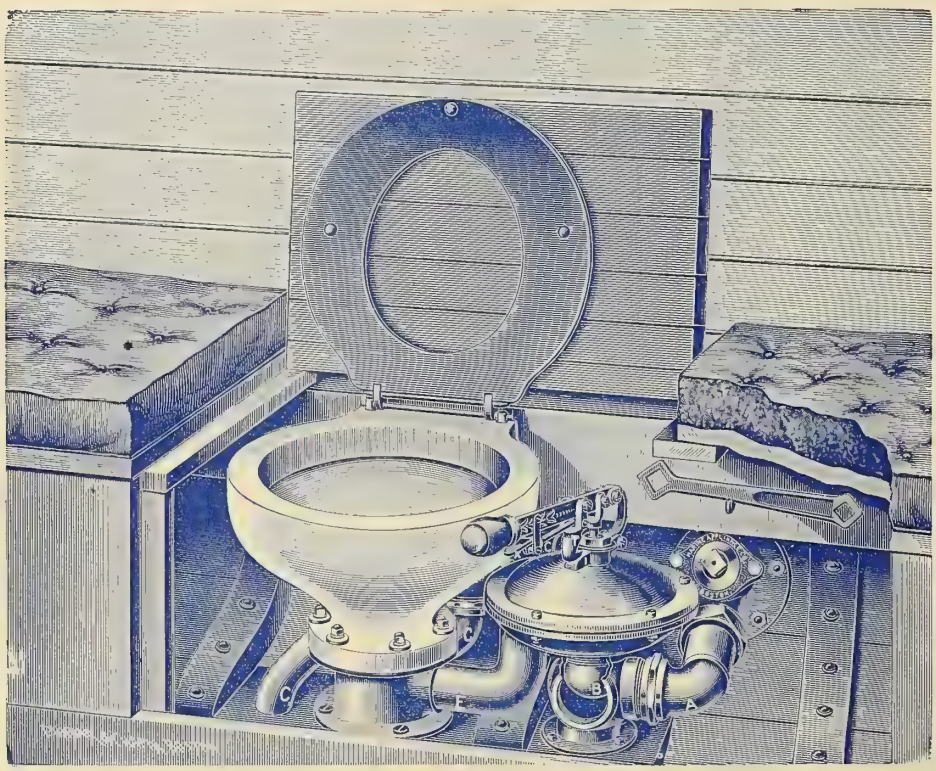

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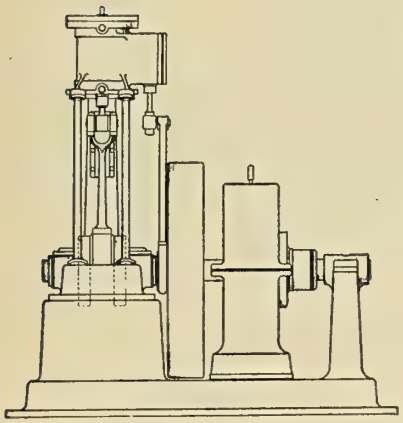

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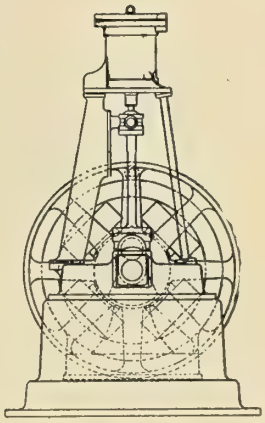

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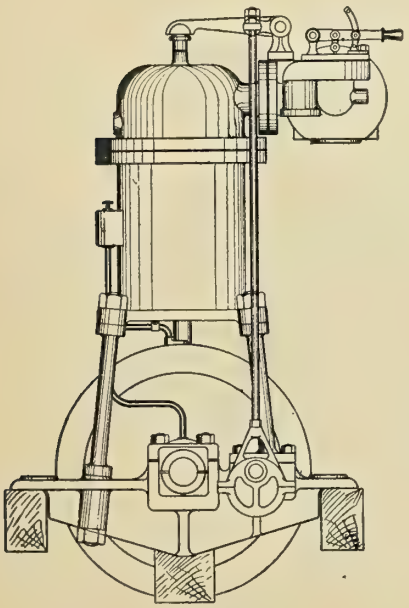

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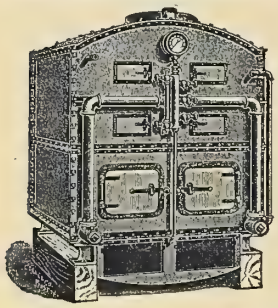

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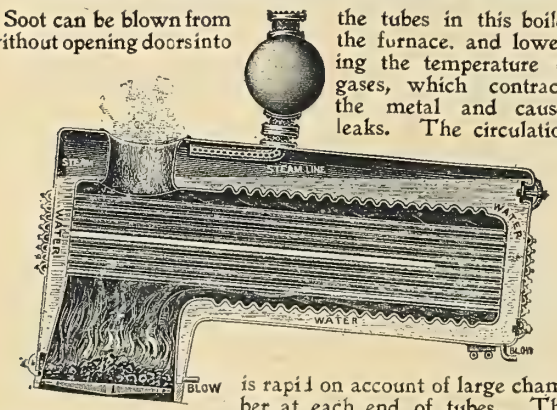

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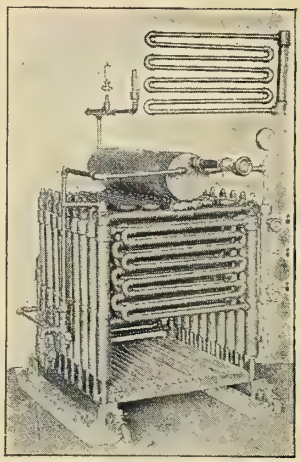

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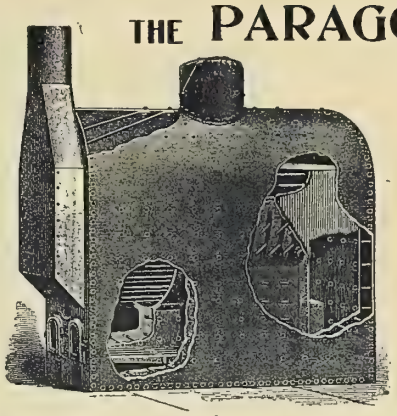

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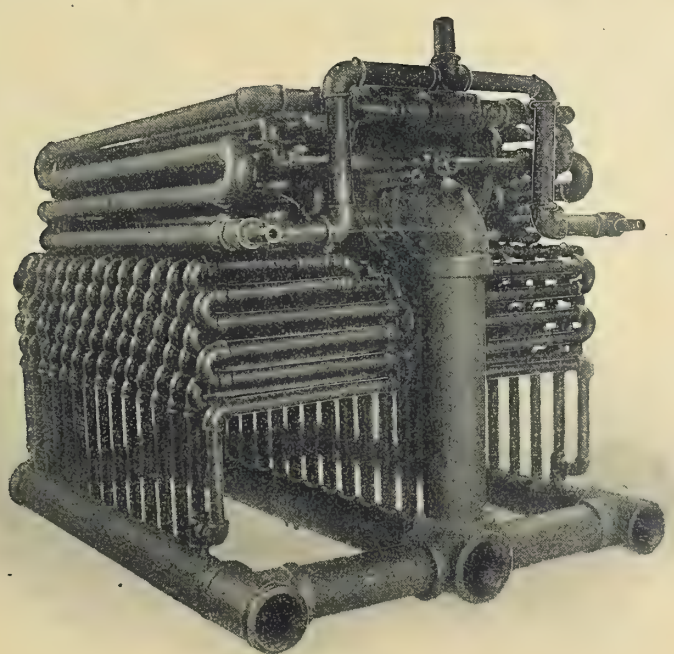

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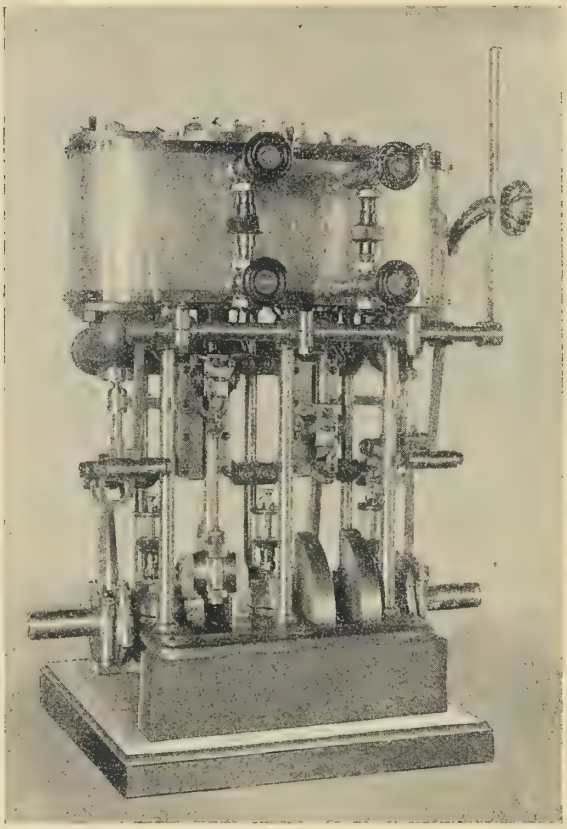

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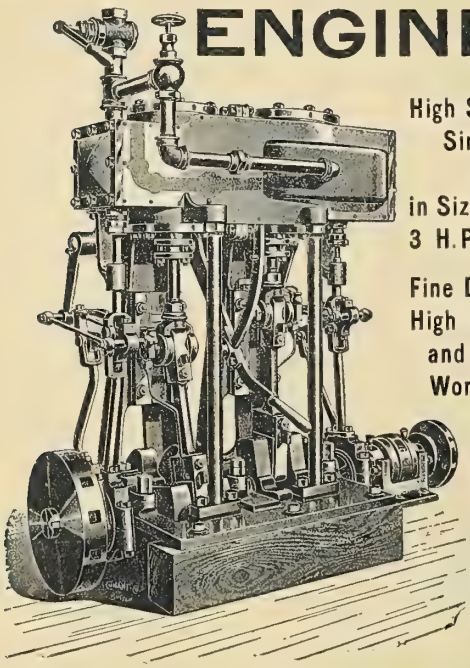

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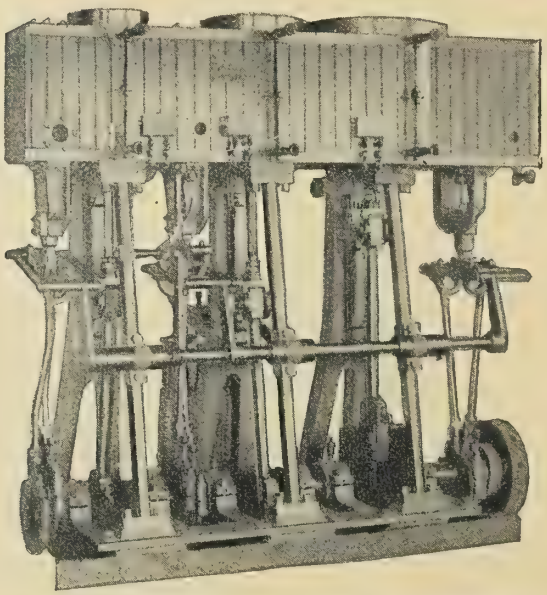

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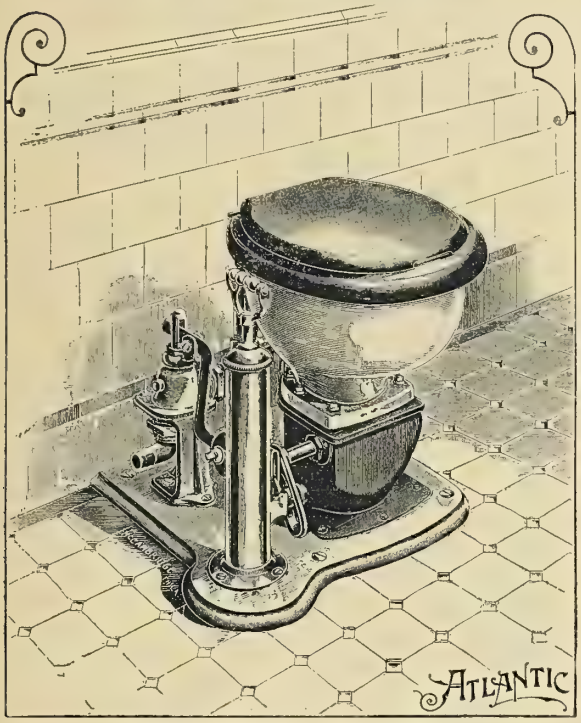

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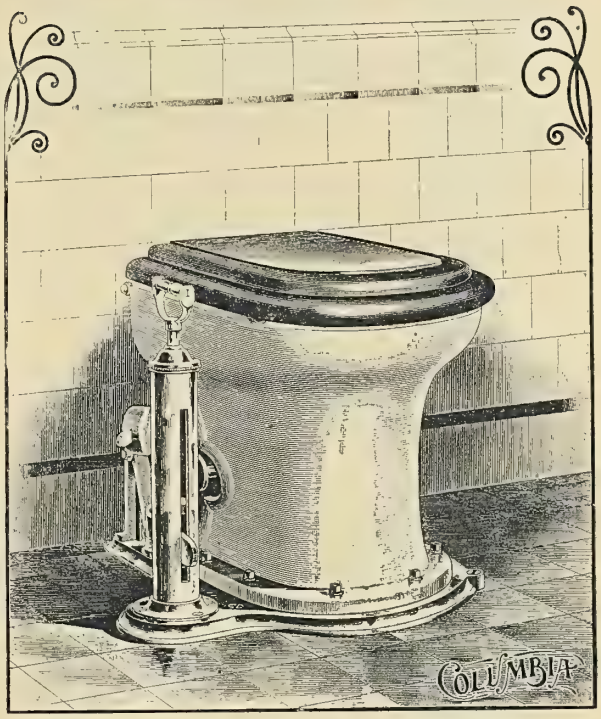

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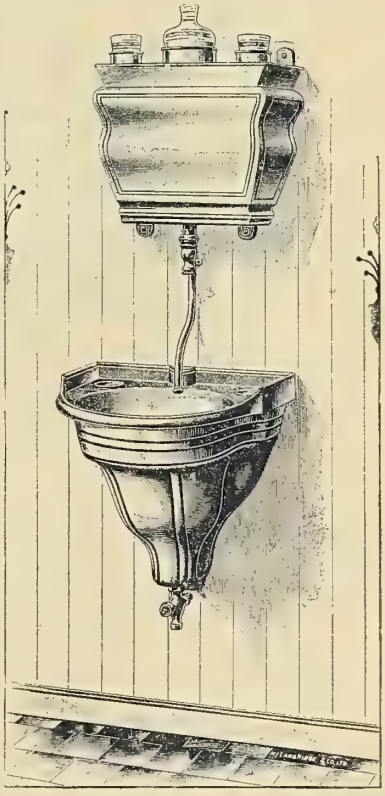

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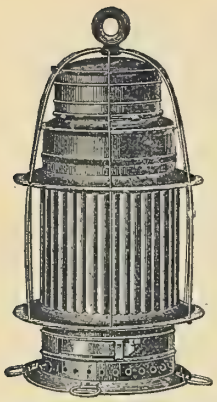

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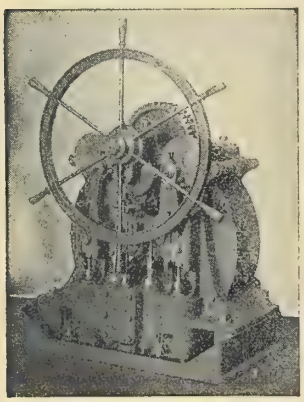

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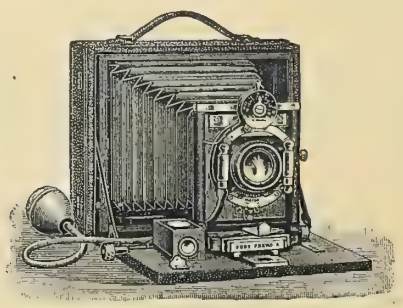

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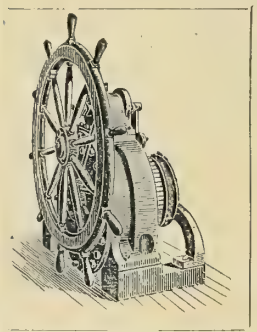

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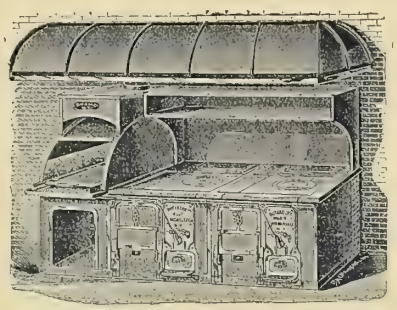

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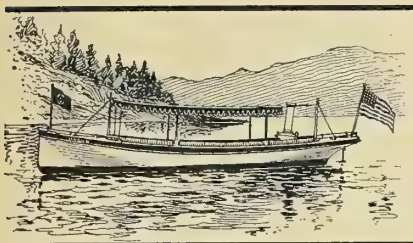

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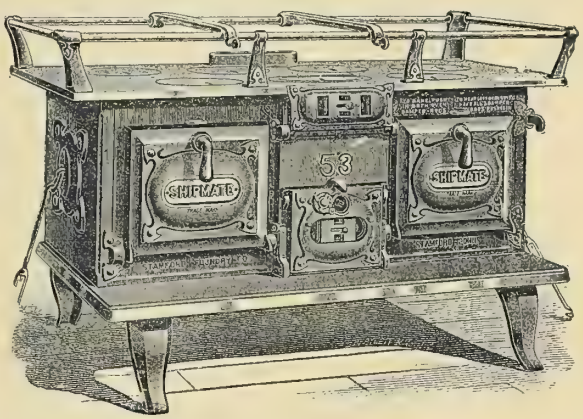

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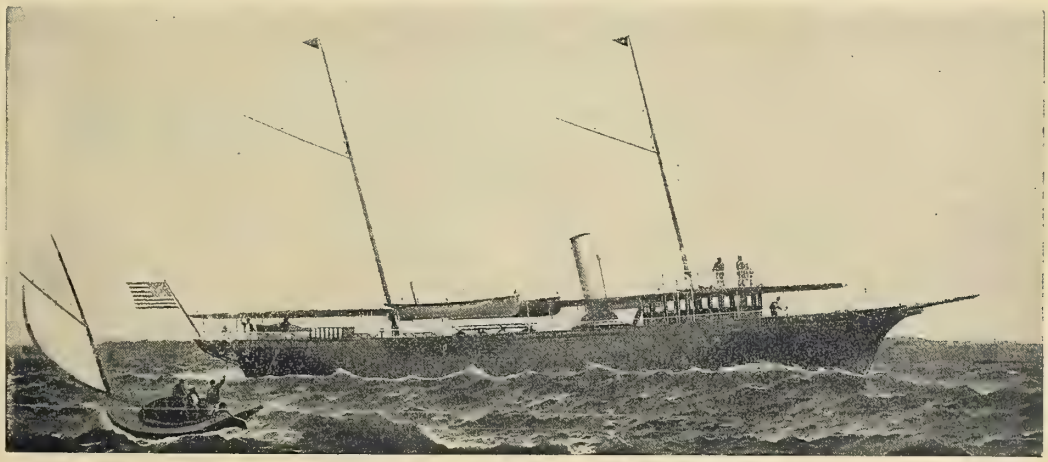

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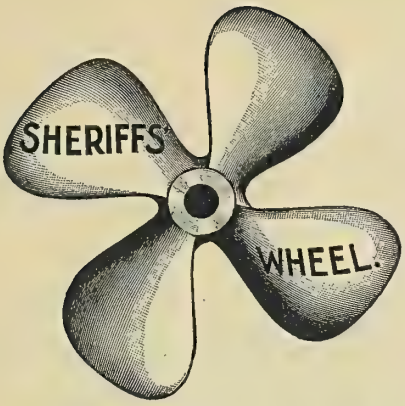

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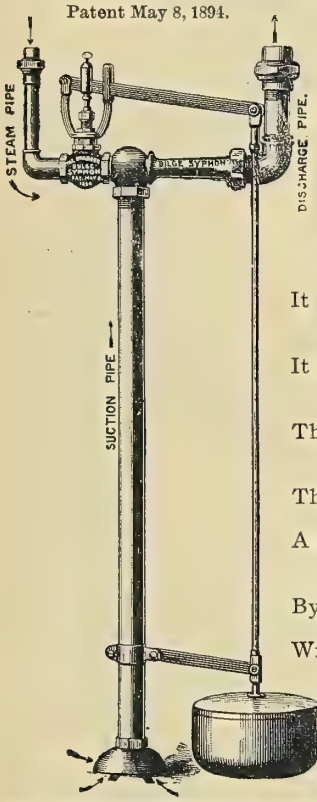

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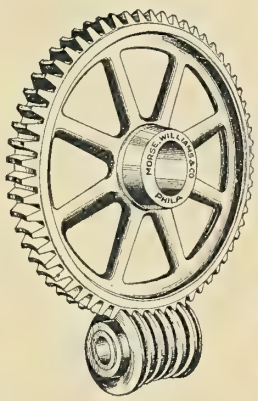

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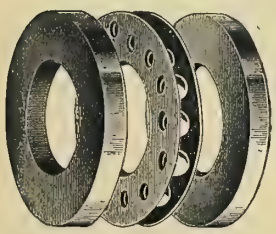

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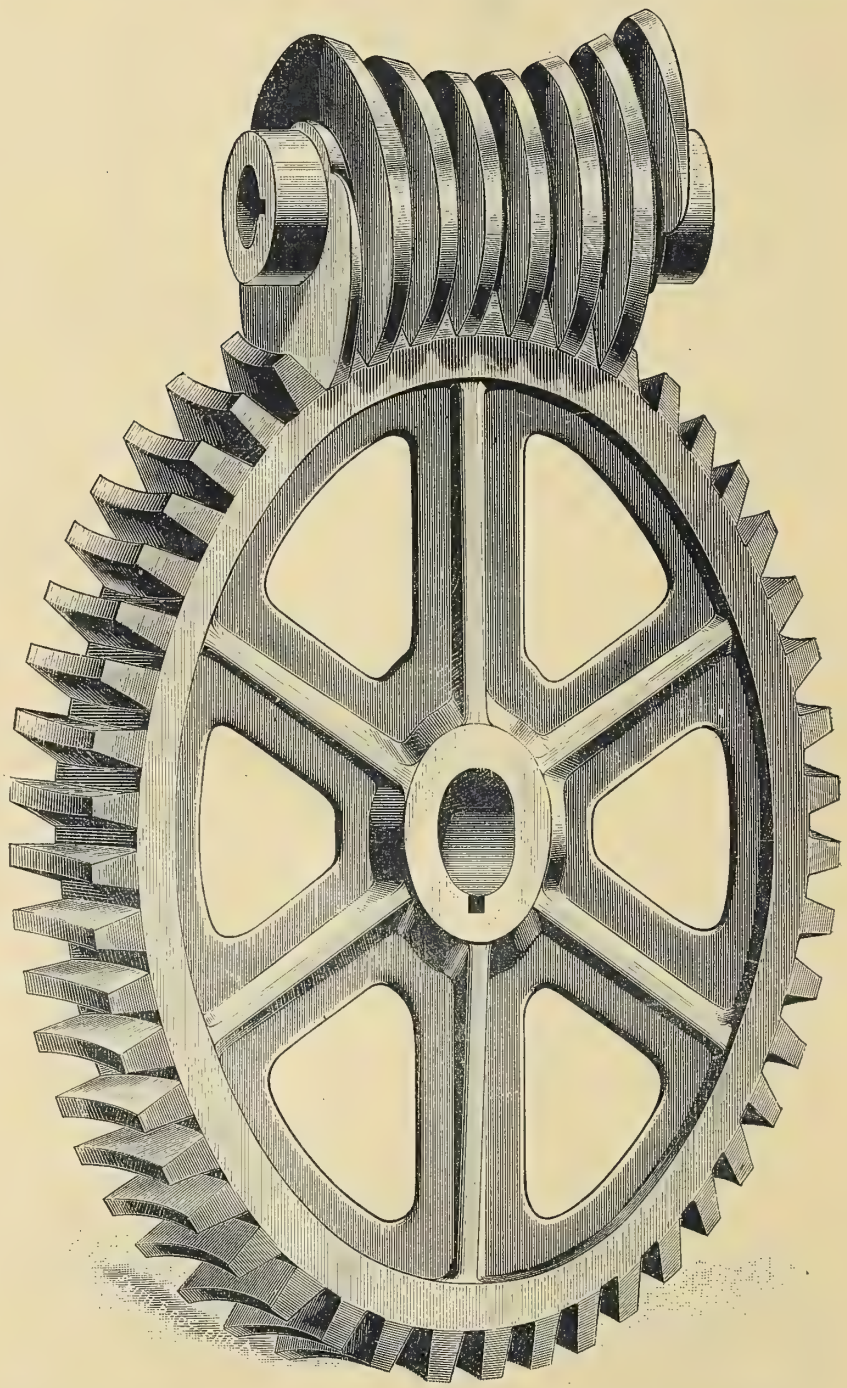

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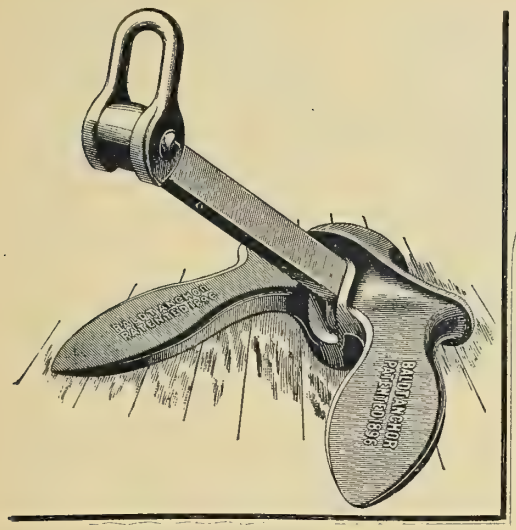

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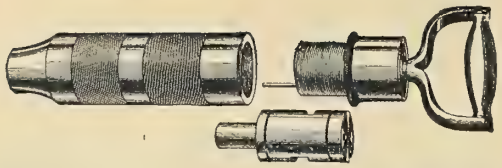

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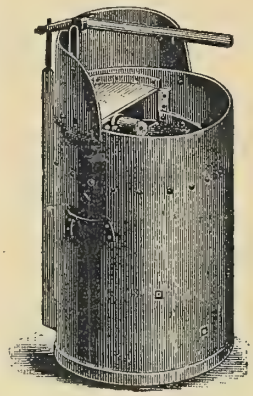

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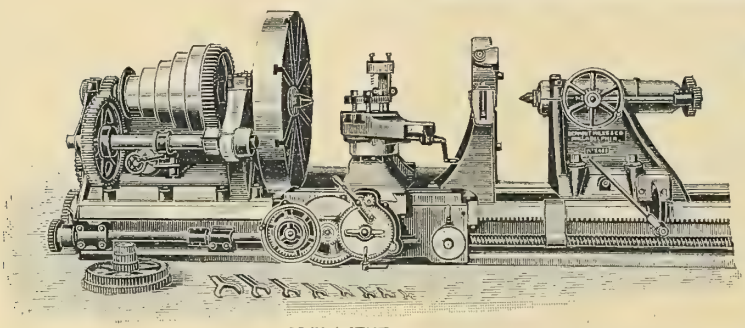

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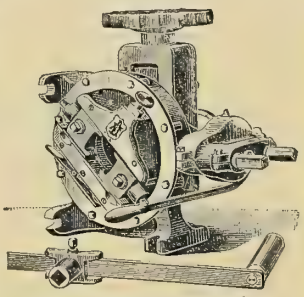

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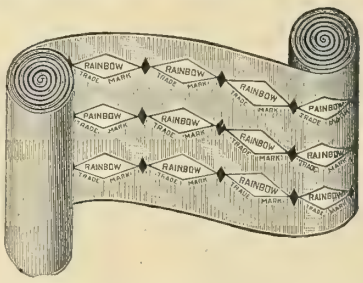

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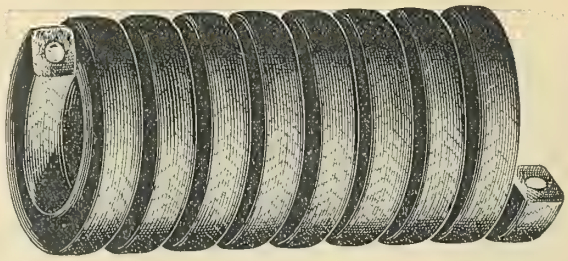

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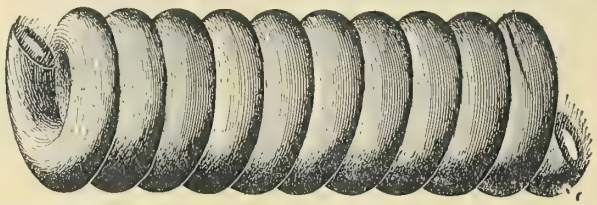

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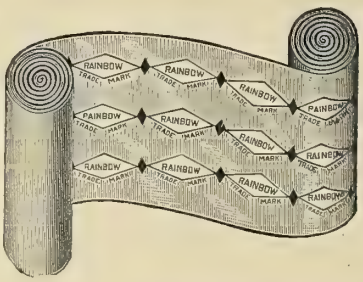

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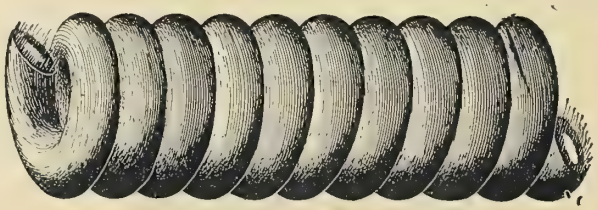

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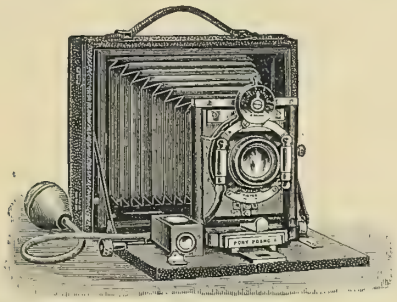

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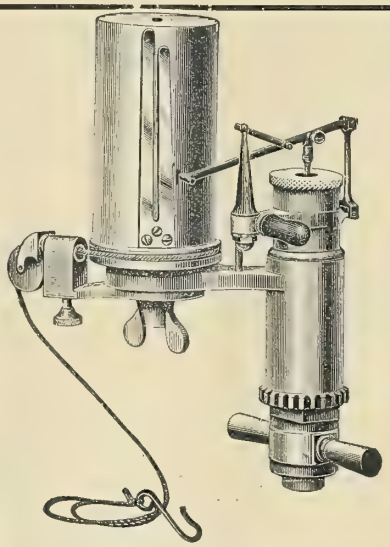

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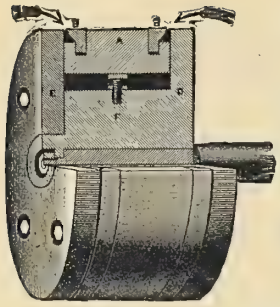

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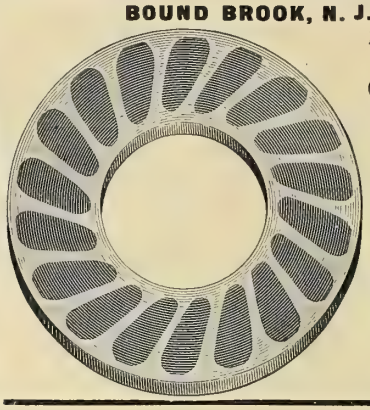

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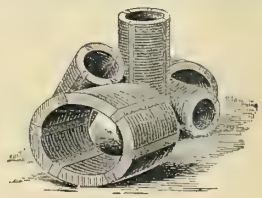

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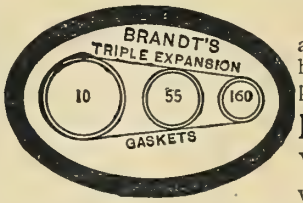

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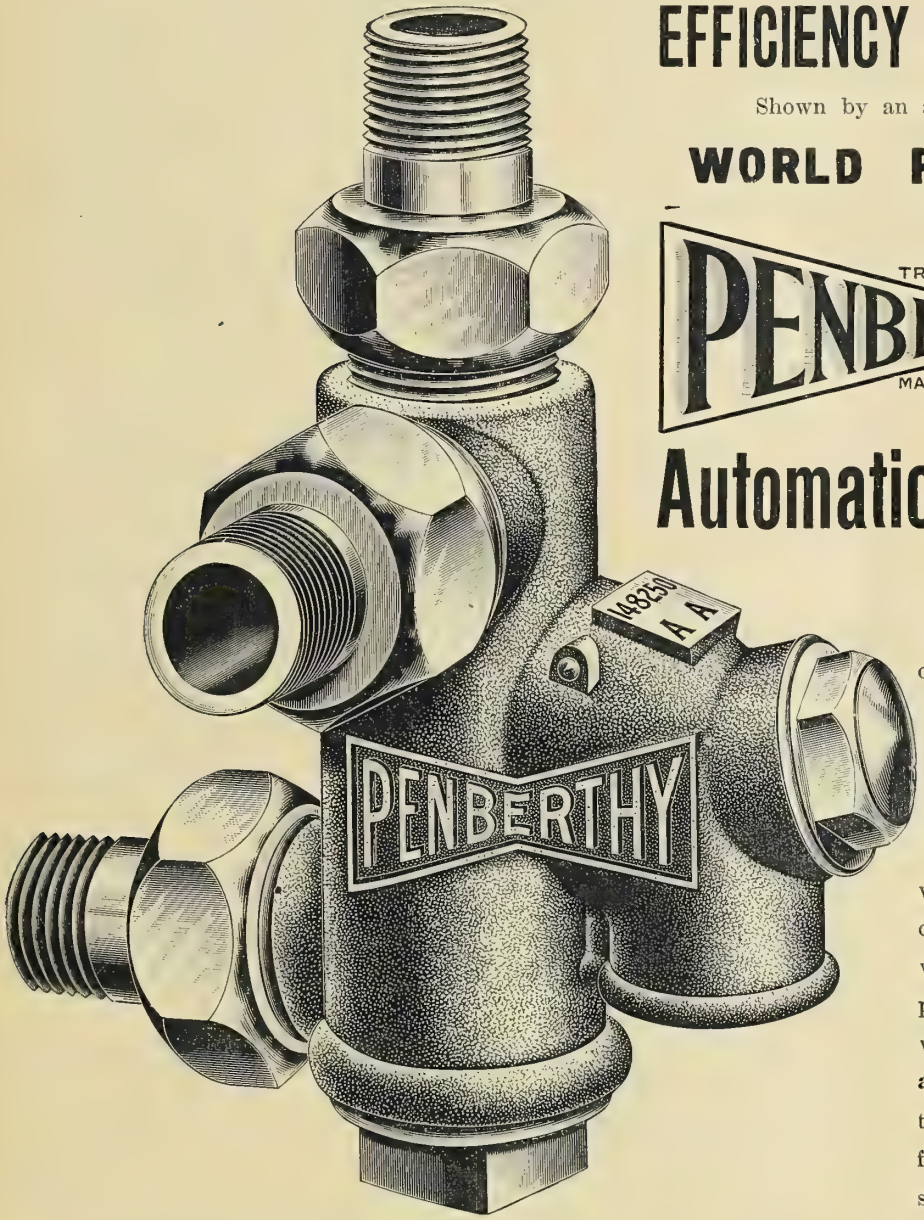

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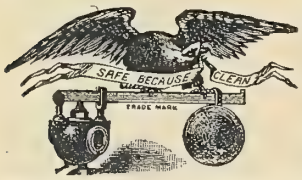

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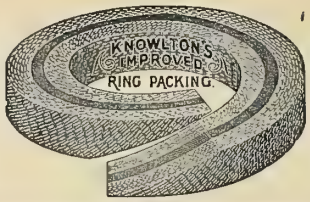

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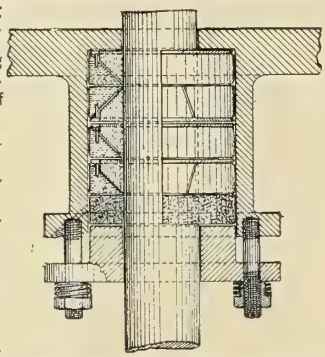

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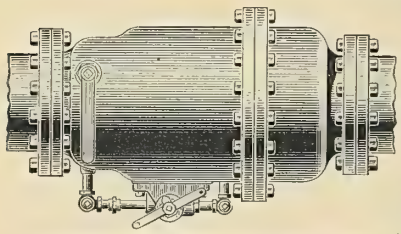

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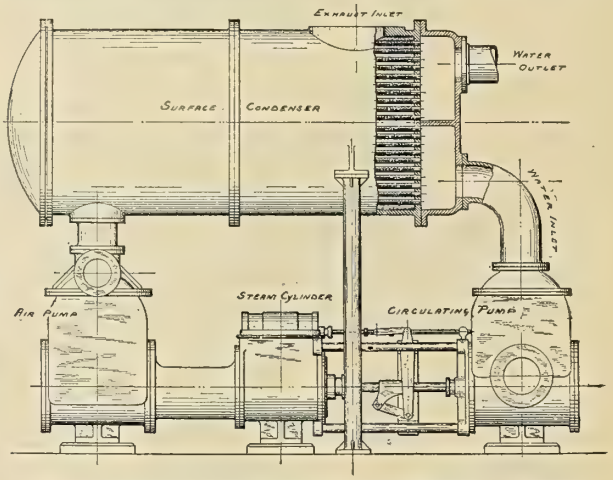

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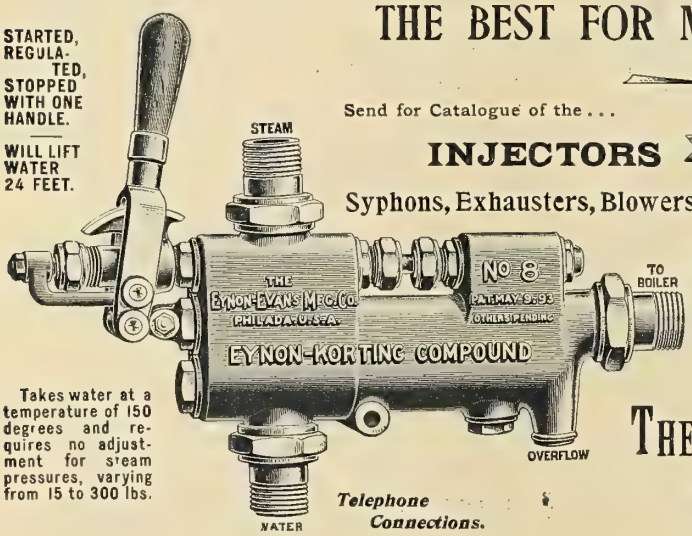

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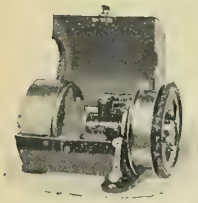

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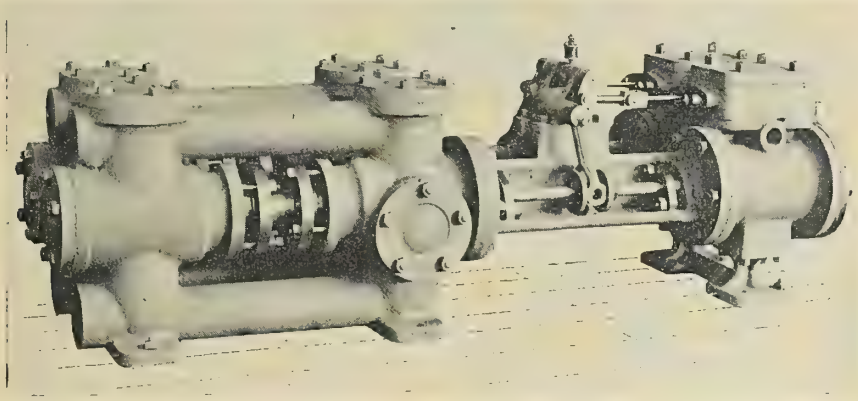

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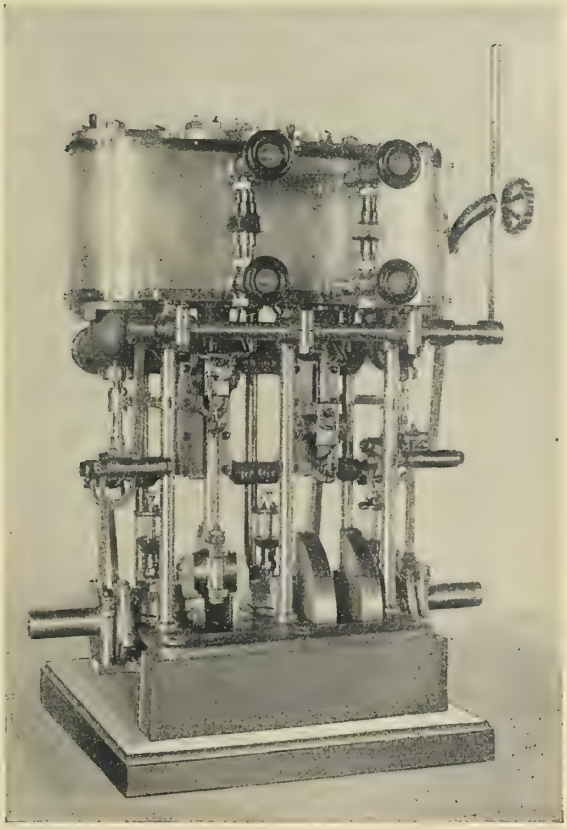

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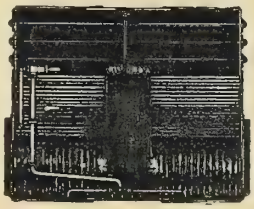

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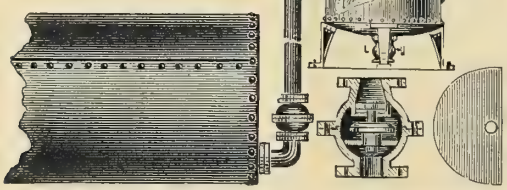

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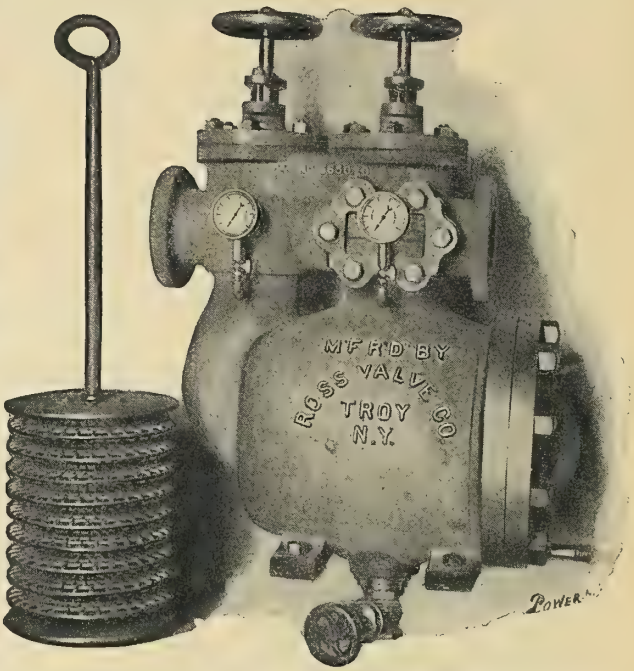

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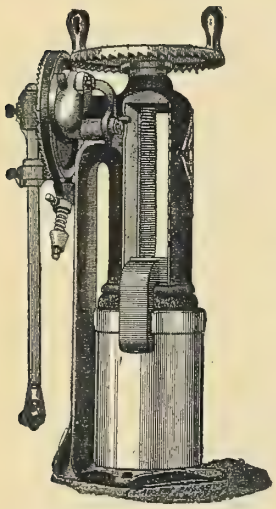

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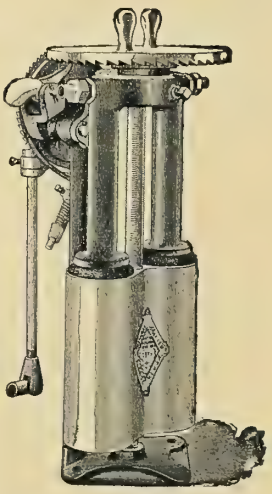

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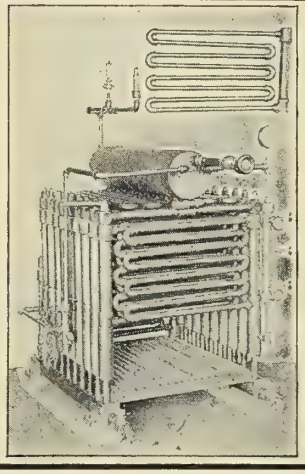

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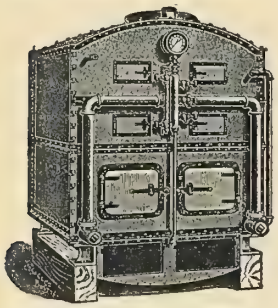

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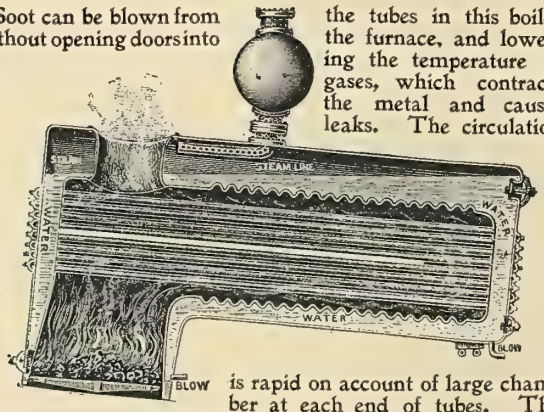

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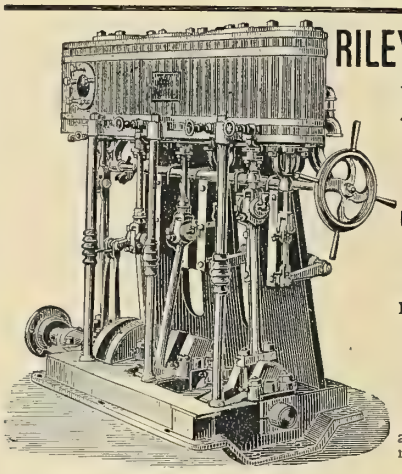

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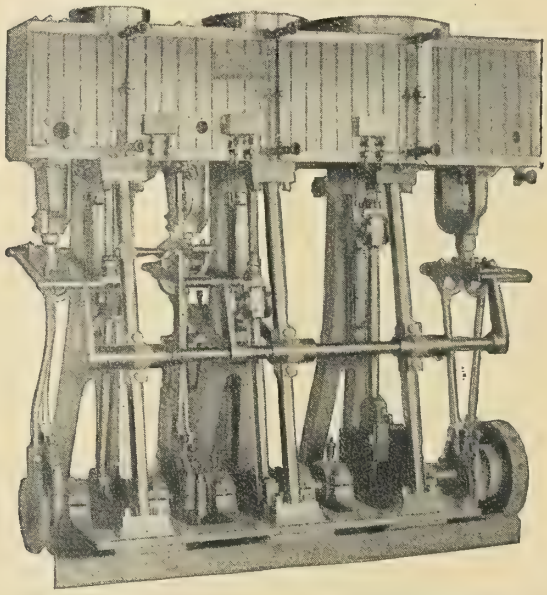

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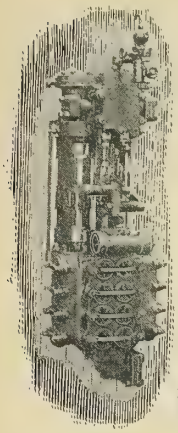

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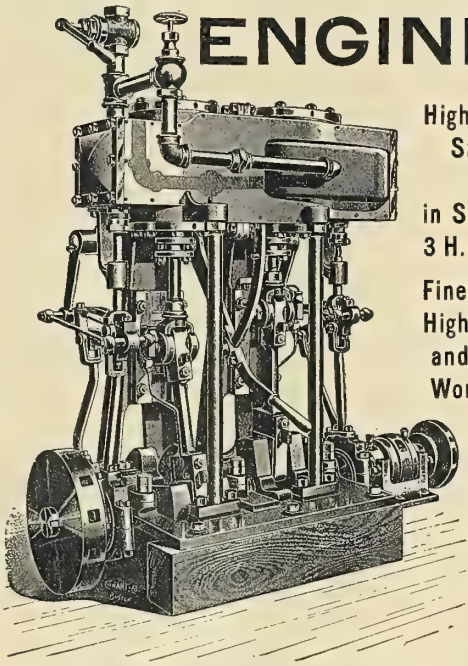

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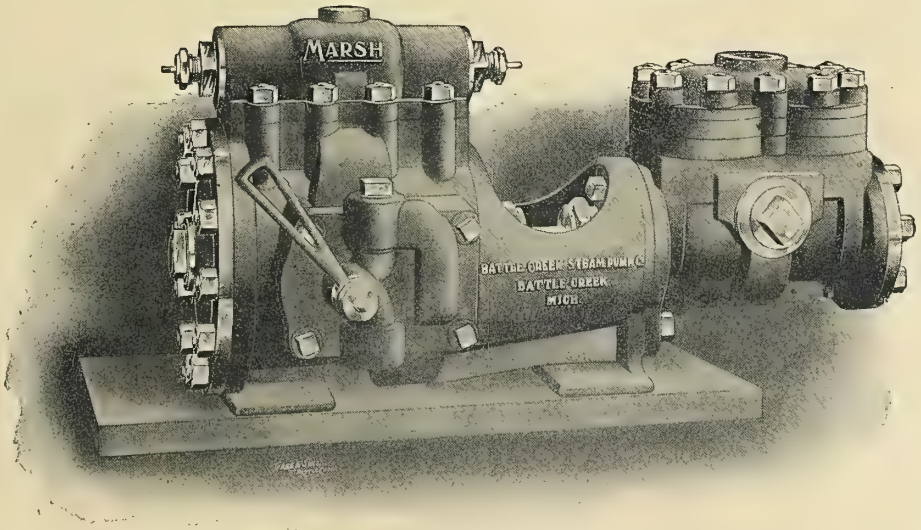

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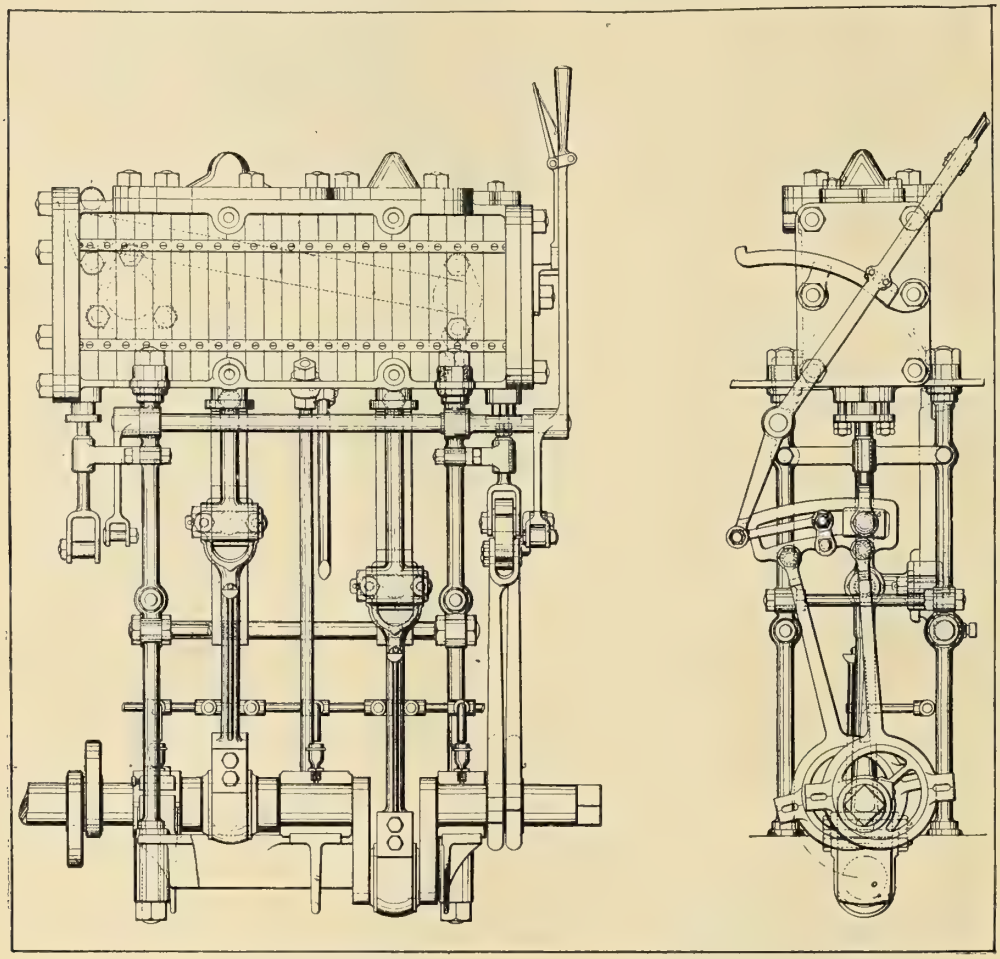

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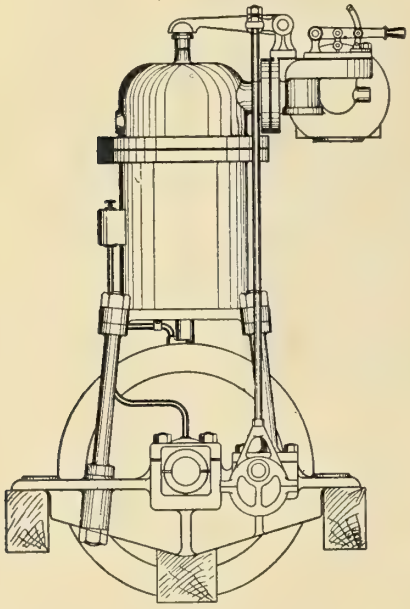

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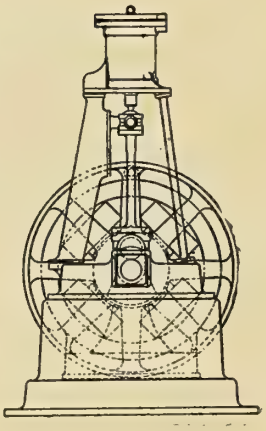

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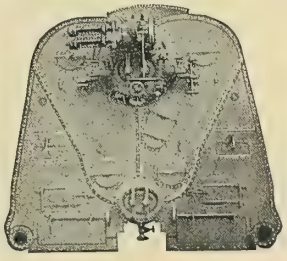

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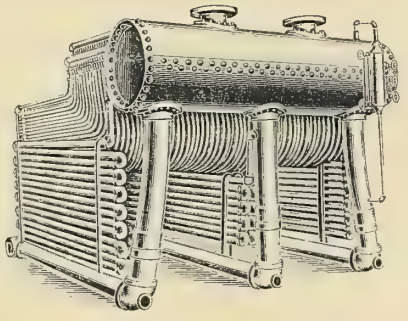

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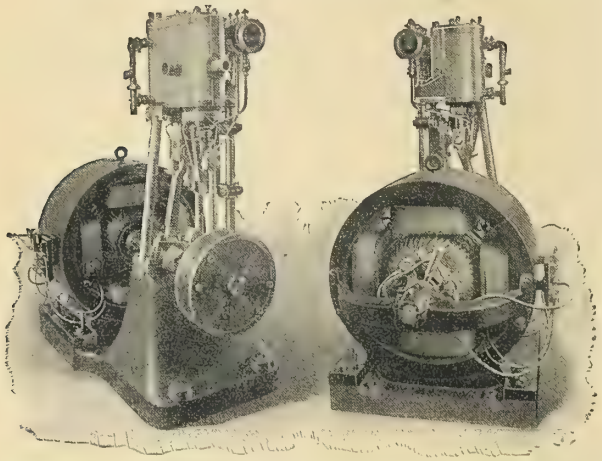

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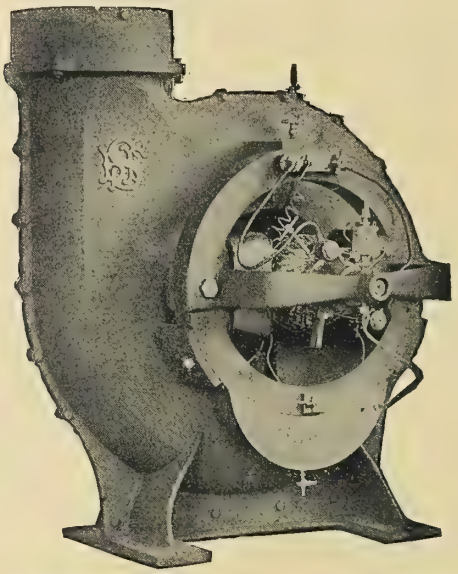

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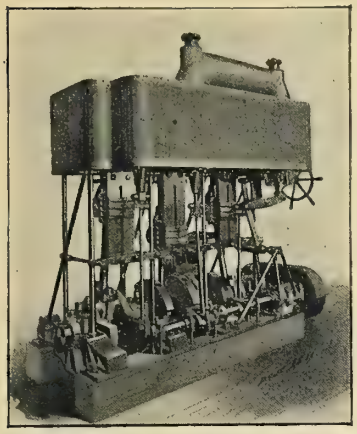

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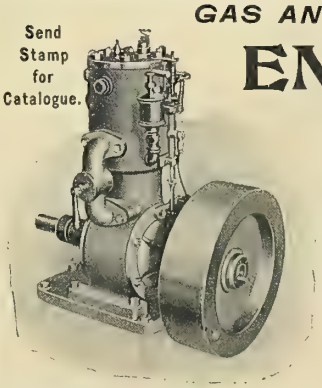

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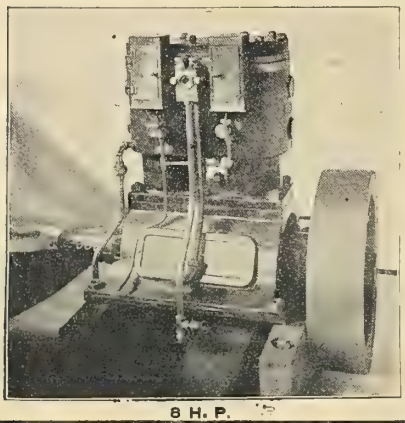

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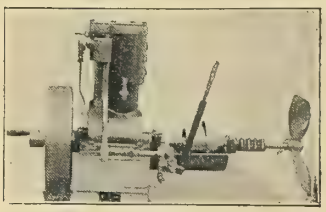

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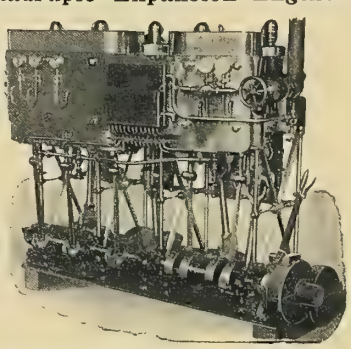

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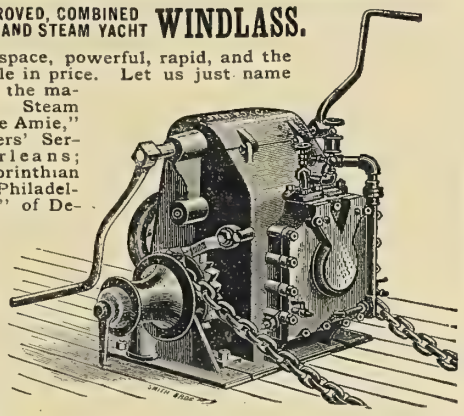

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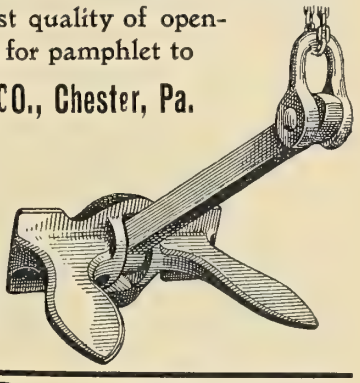

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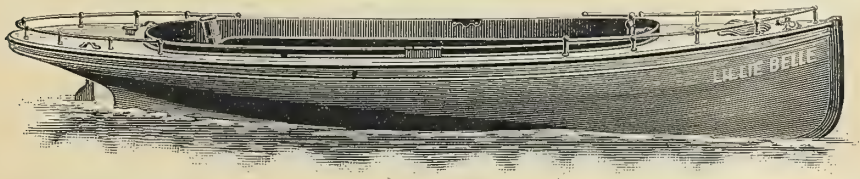

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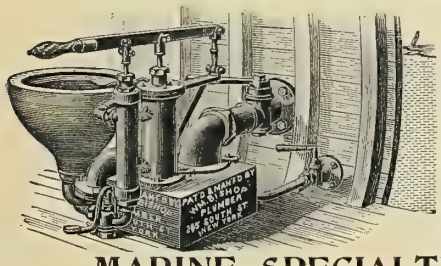

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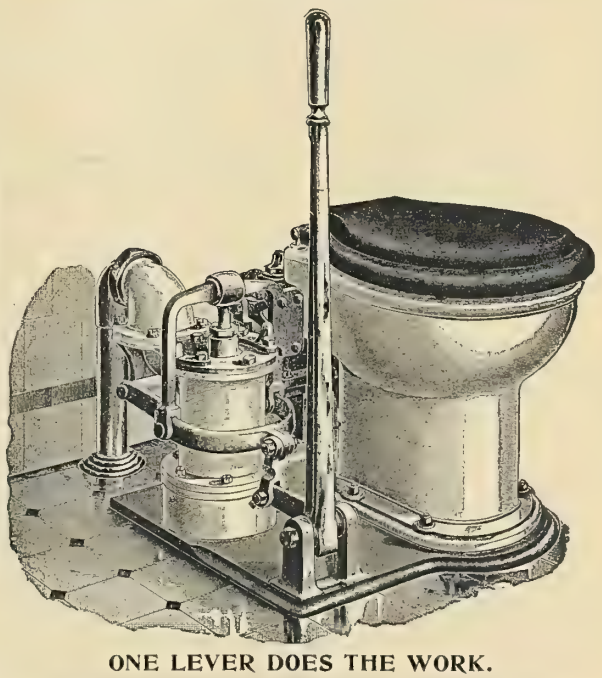

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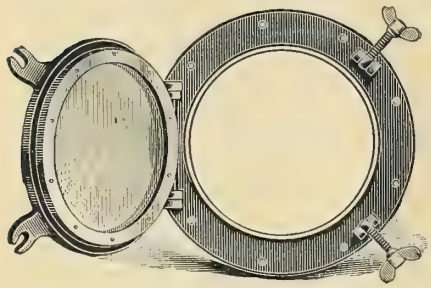

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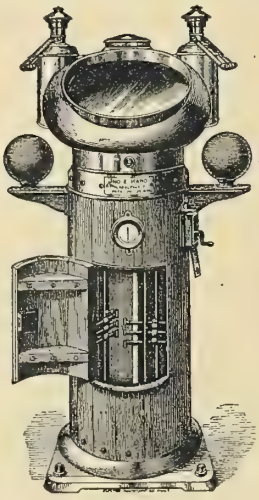

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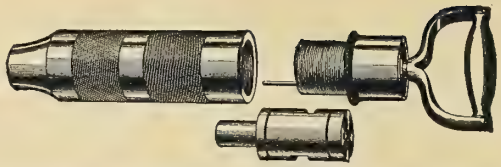

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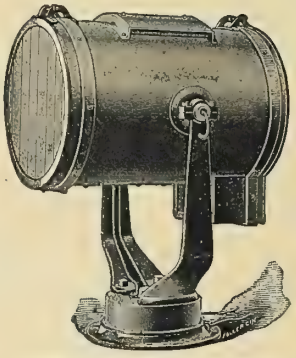

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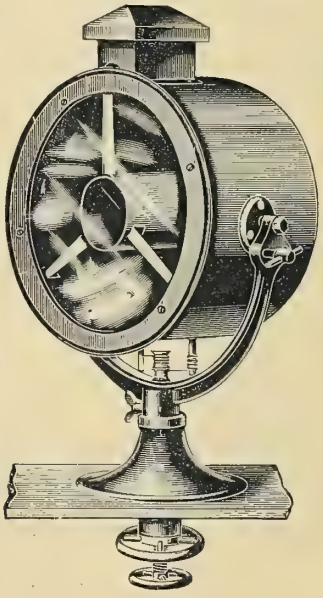

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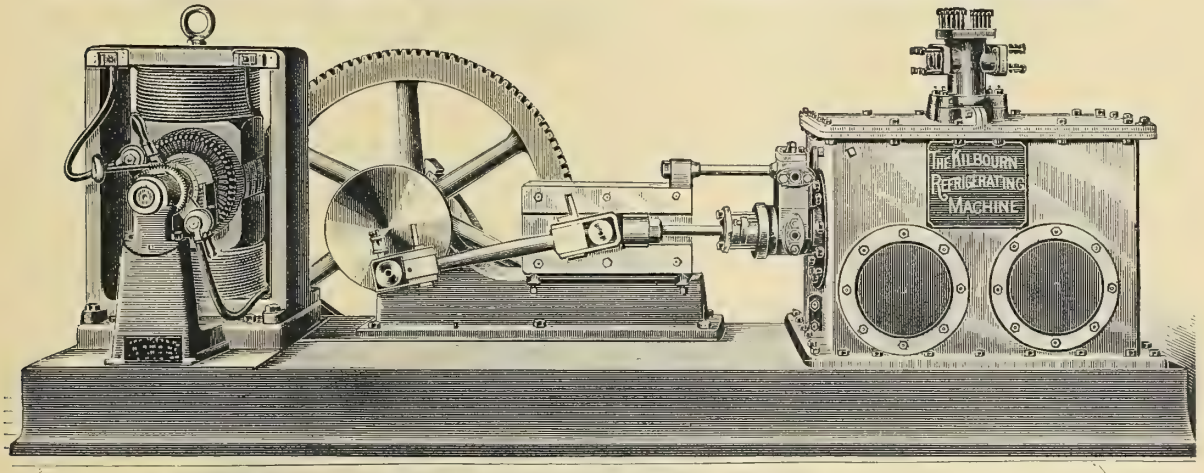

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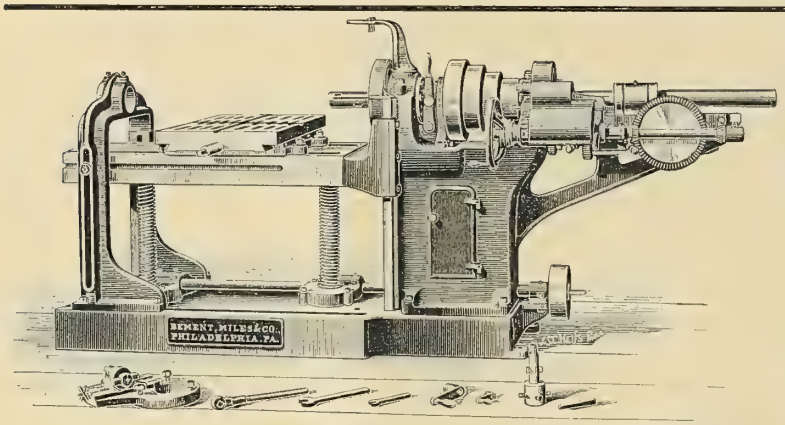

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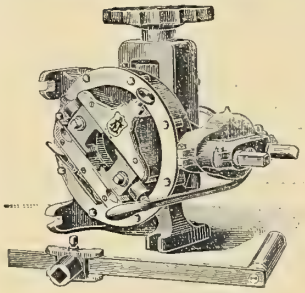

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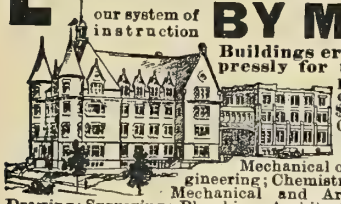

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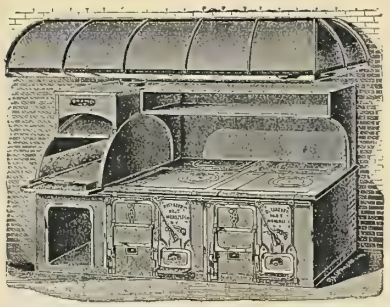

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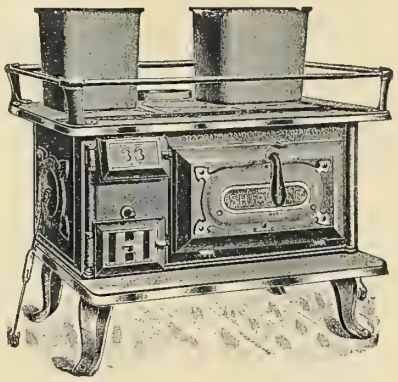

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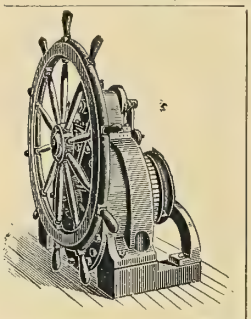

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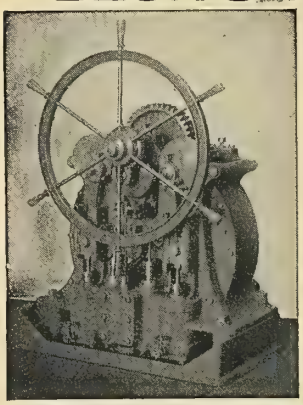

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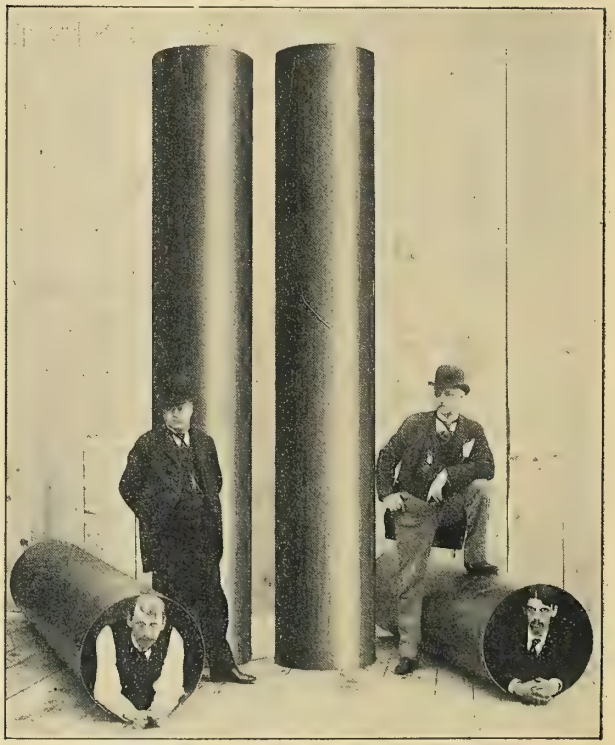

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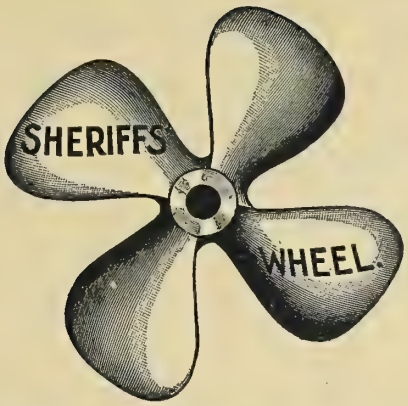

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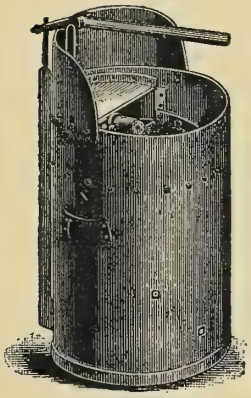

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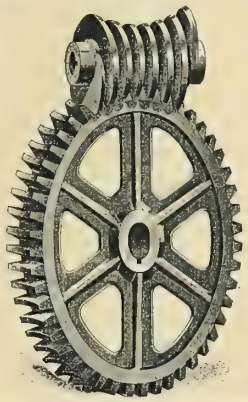

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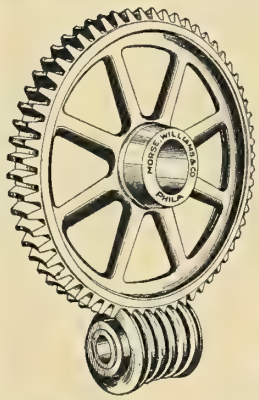

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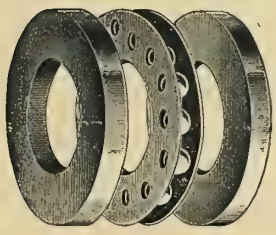

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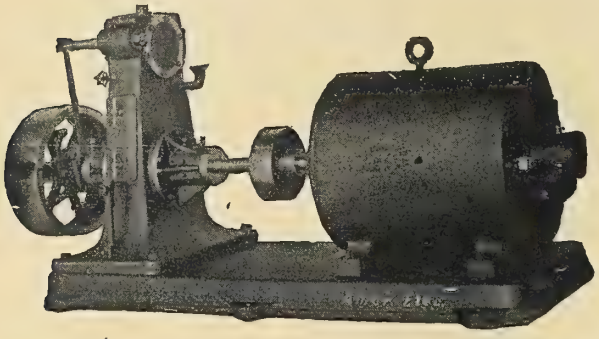

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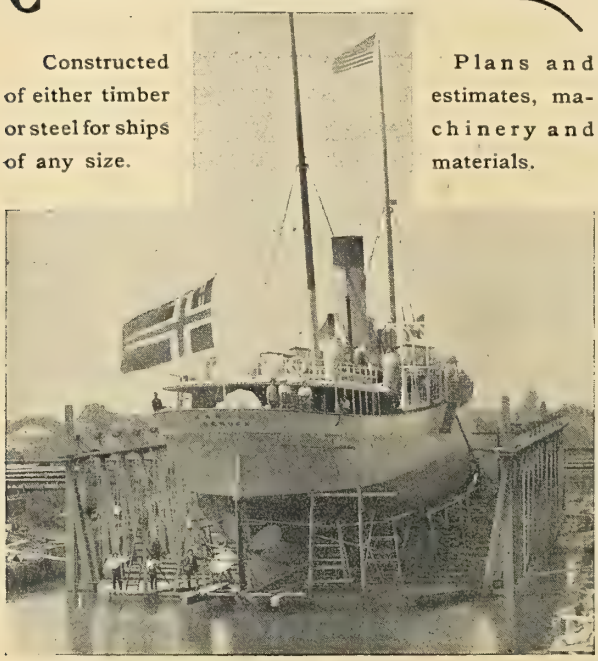

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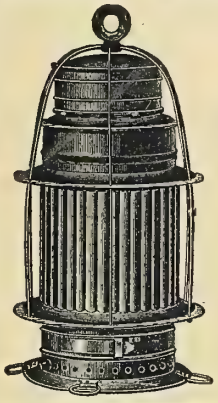

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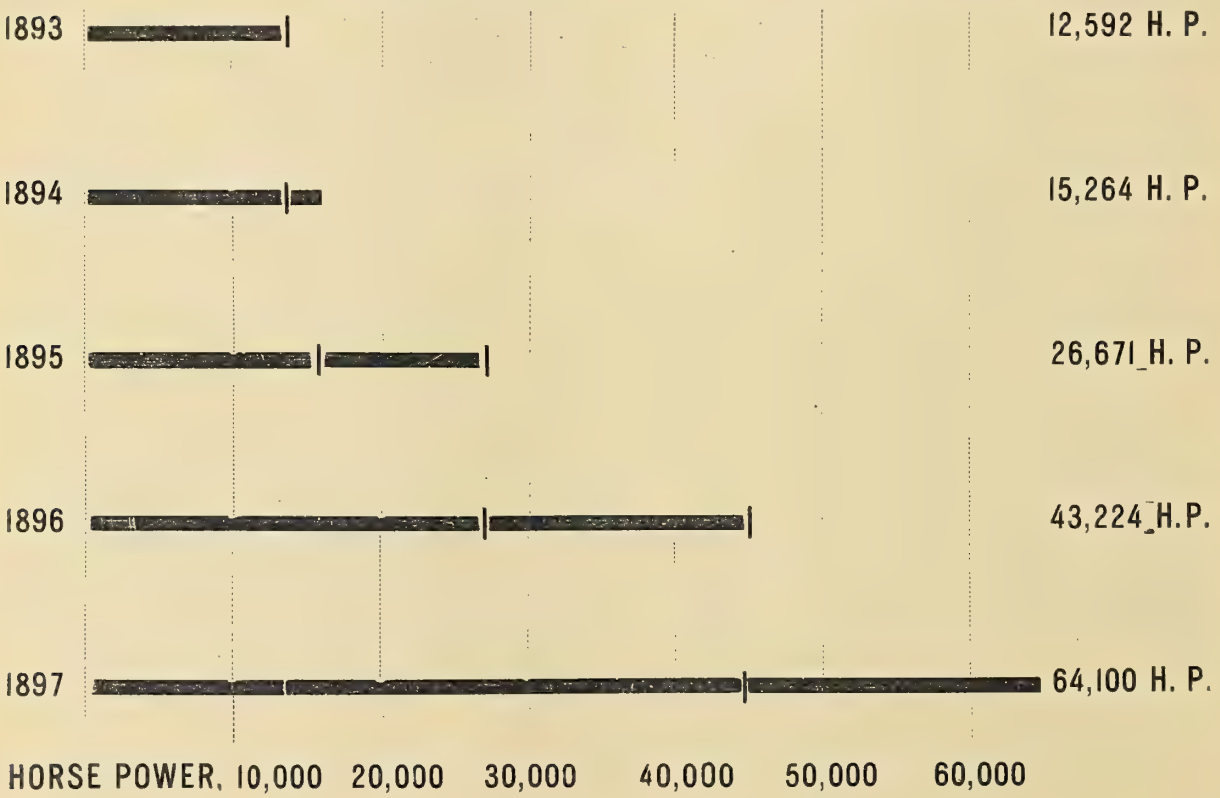
Diagram showing the increase of HOWDEN equipments by us for the first five years.



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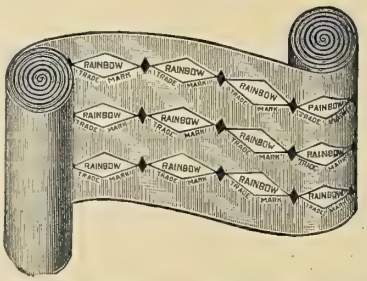

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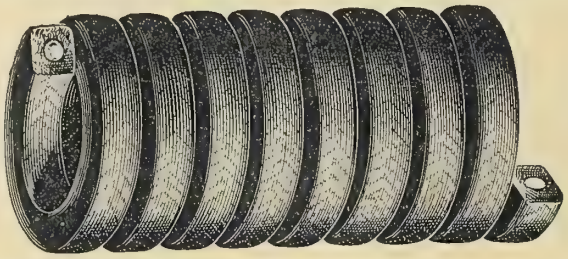

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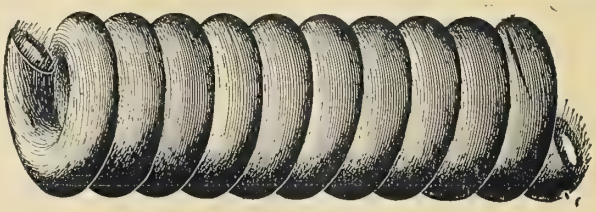

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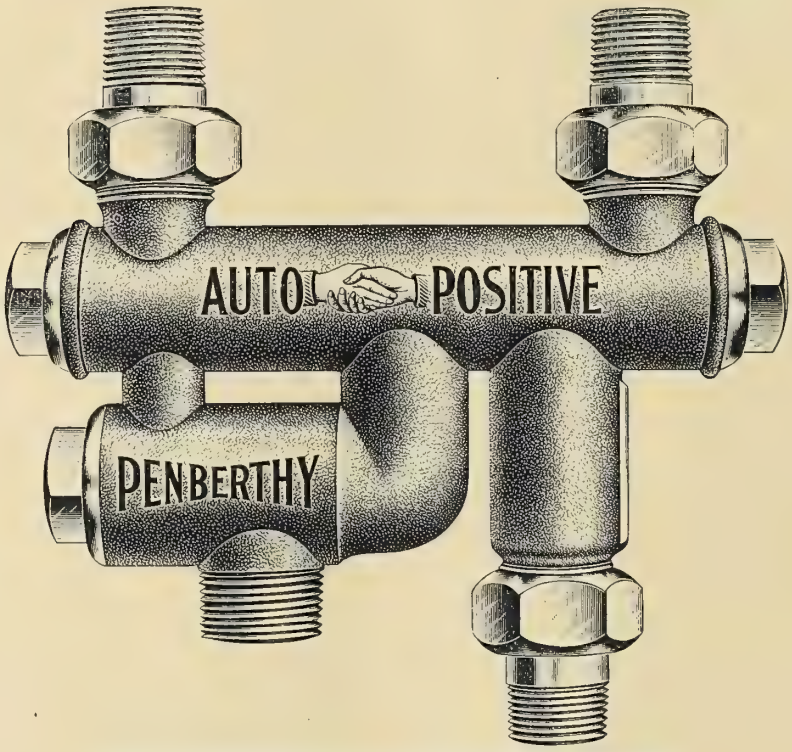

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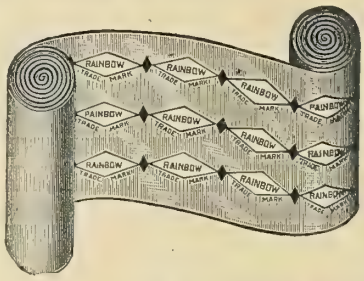

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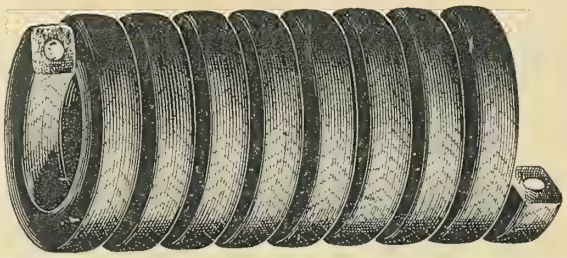

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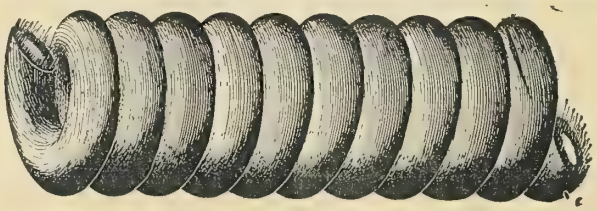

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TOTAL INSTALLATIONS THROUGHOUT THE WORLD,

724 Steamers--1,830,100 Horse Power.

TOTAL INSTALLATIONS BY THE

Dry Dock Engine Works, Detroit, Mich.,

56 STEAMERS--69,050 HORSE POWER.

The engine and blower for supplying the draft can be placed in any convenient place, preferably in the engine room. The hot air from the engine room is taken in and forced through the air heater, where it is heated by passing among vertical tubes, through which the escaping gases from the boiler pass. The heated air is led down in ducts around the breeching and delivered under and over the grates in sufficient quantities to get perfect combustion. This is the general principle of the Howden system.

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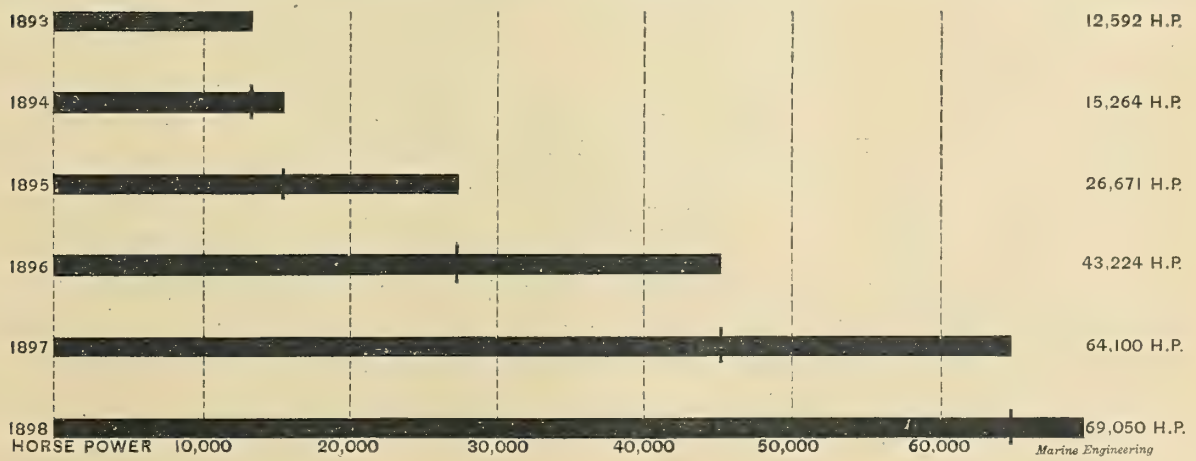

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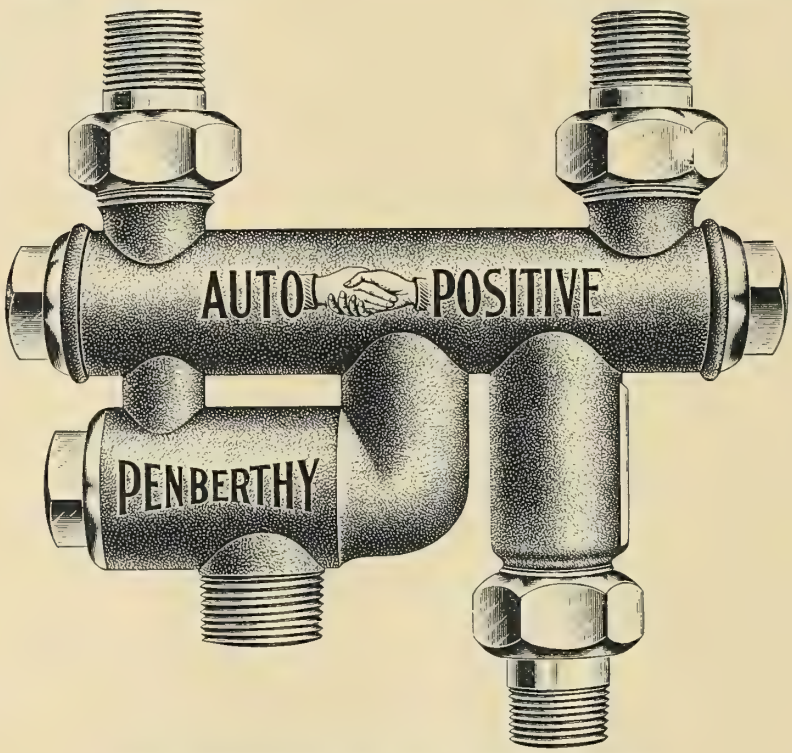

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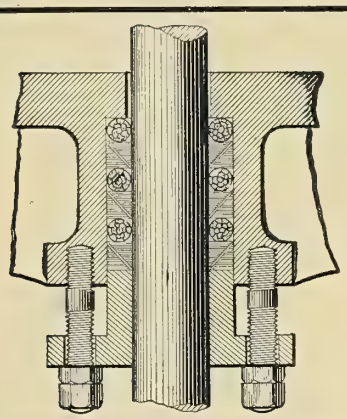

Fig. 1—Packing in position and gland adjusted

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The most elastic and durable packing for feed pumps, air pumps, hydraulic pumps, and trunk plunger pumps, also for electric engines and all other auxiliary engines and pumps. Special grades for high steam pressures on main engine rods and valve stems, also for ammonia compression pump rods.

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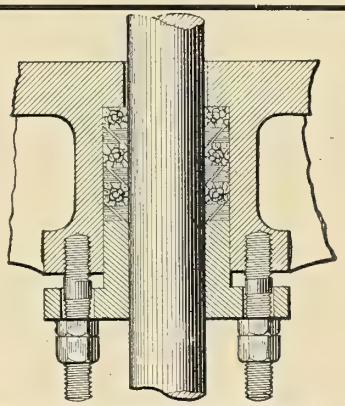

Fig. 2—Gland screwed down, showing how the wedges slide up to compensate for wear.

NORTHERN STEAMSHIP CO.

Office of the Agent.

Buffalo, N.Y. Oct., 8, 1897.

Regal Packing Co.,

Chicago, Ill.

Gentlemen:-

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We carry 267 lbs. boiler pressure and steam at 200 lbs. is delivered to our high pressure cylinders. This will afford some idea of the character of the packing we require, and I am pleased to state that your Regal Packing has met this demand perfectly.

As a matter very important to Engineers, your packing contains a lubricating element which is constant, and for that reason there is a very appreciable reduction in the amount of friction on all rods and stems and a consequent reduction in the amount of wear thereon.

I sincerely believe your Regal Metallic packing superior to anything I have known and its economy is unquestioned since it can be used over and over again for all time. I have nothing but good words for it, and I am sure every Engineer will use nothing else when once its value is understood.

Very truly yours,

I take pleasure in endorsing the above Miers Coryell

John A. Currier

Chief Engineer

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REGAL Metallic Packing.

Descriptive booklet sent on application.

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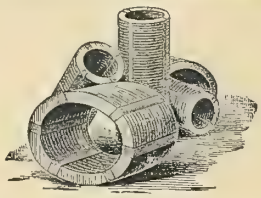

ANY SIZE OR SHAPE, FOR THE SMALLEST HAND HOLE OR THE LARGEST CYLINDER TOP. : : : :

Our various grades of stock are adapted for any and all kinds of joints, and will give entire satisfaction under the highest pressures and most severe conditions.

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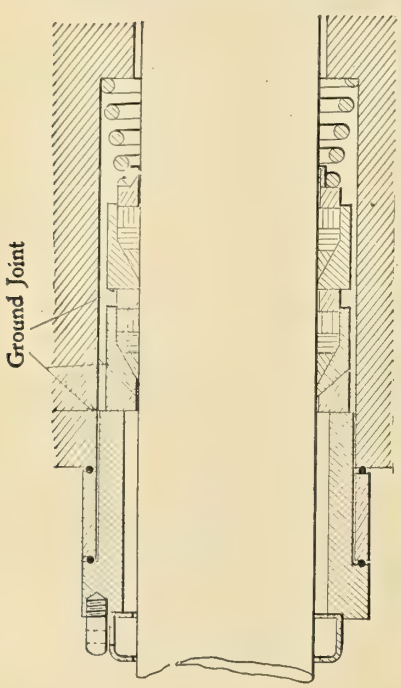

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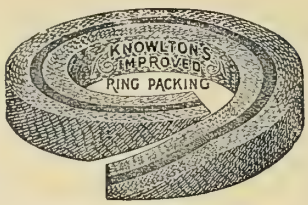

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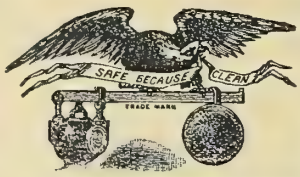

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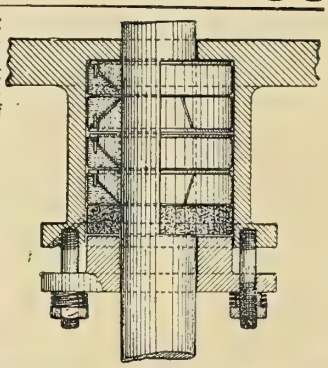

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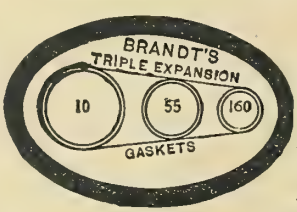

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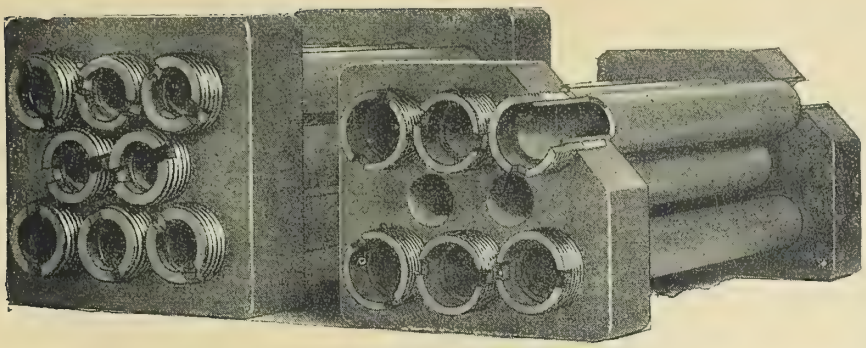

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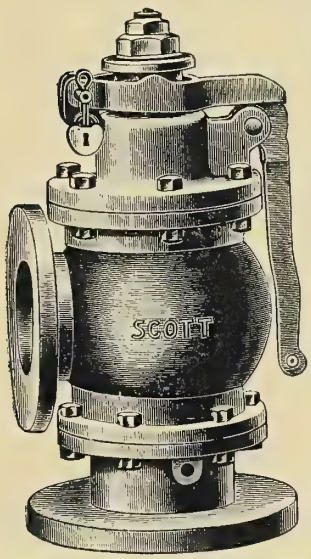

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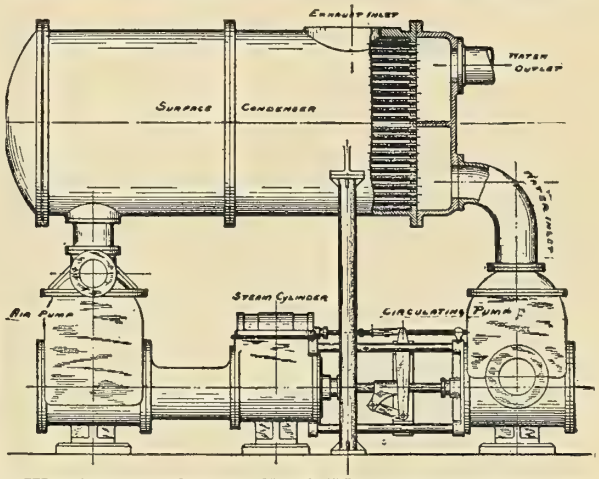

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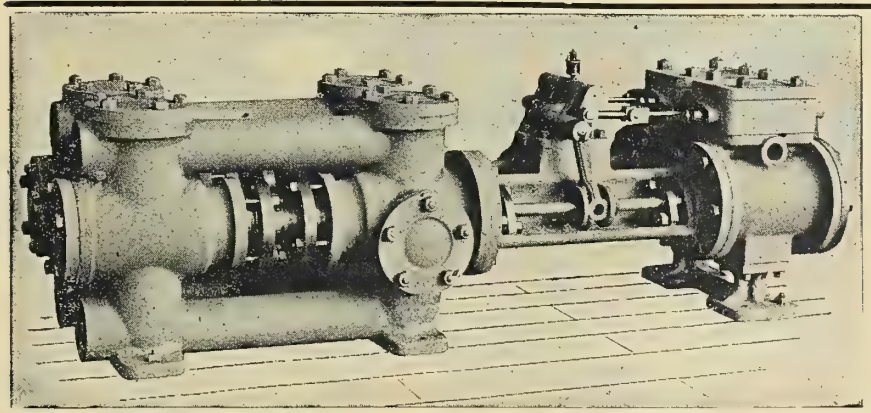

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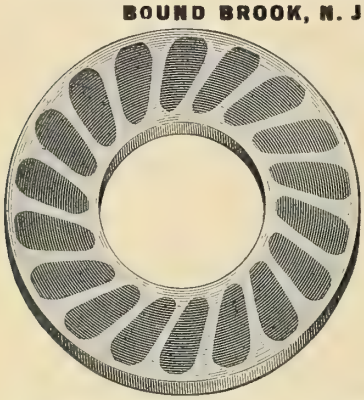

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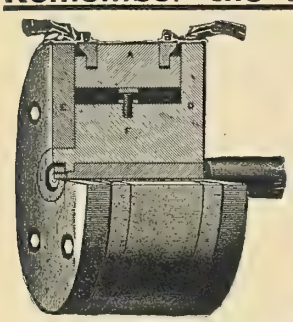

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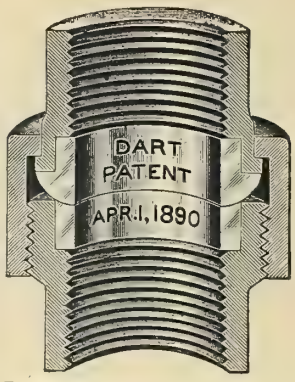

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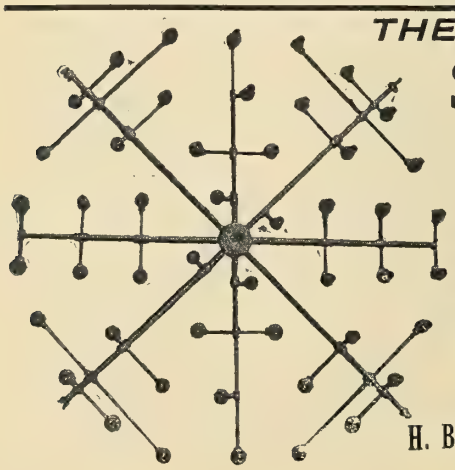

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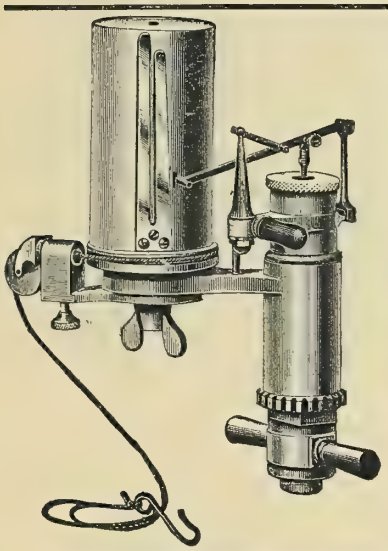

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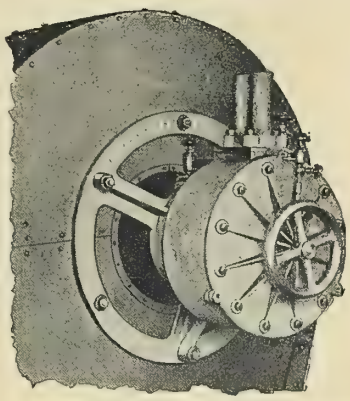

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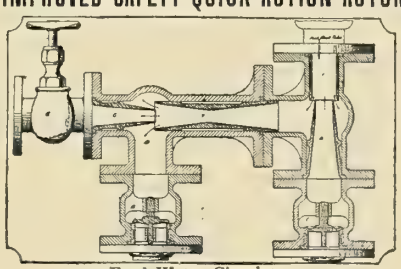

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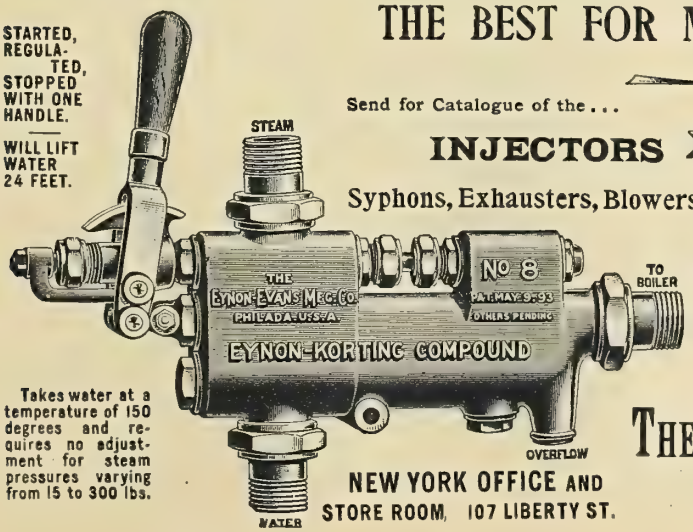

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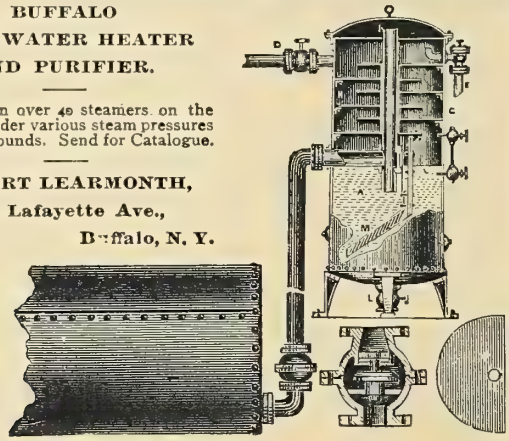

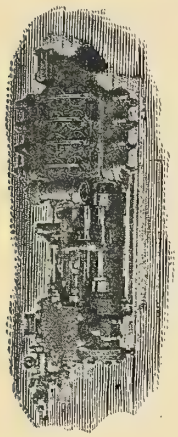

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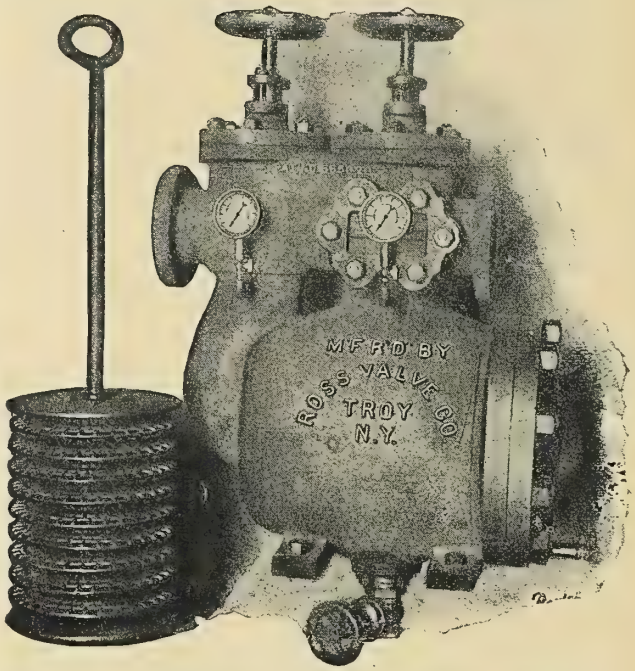

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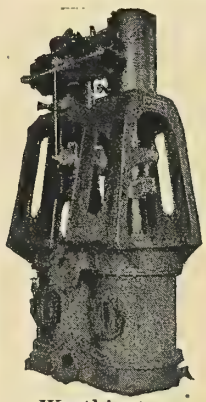

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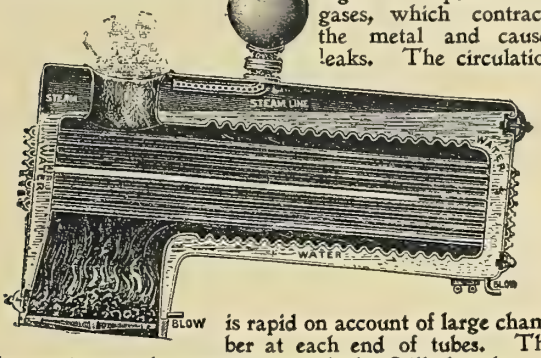

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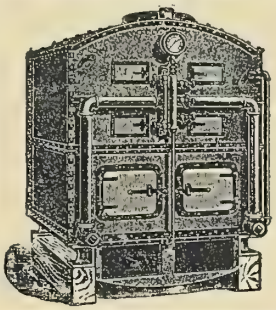

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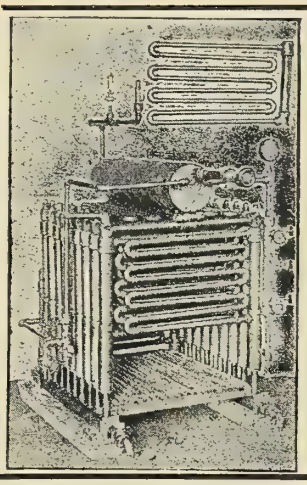

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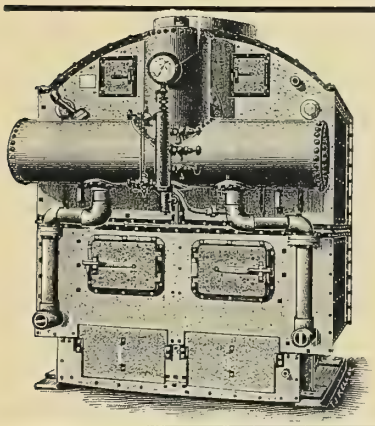

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FOR HIGH PRESSURES AND EXCESS DUTY

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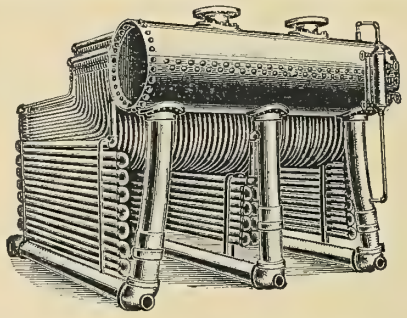

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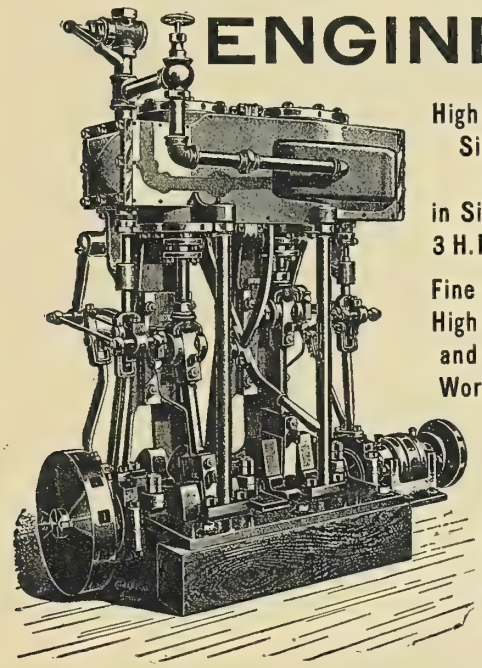

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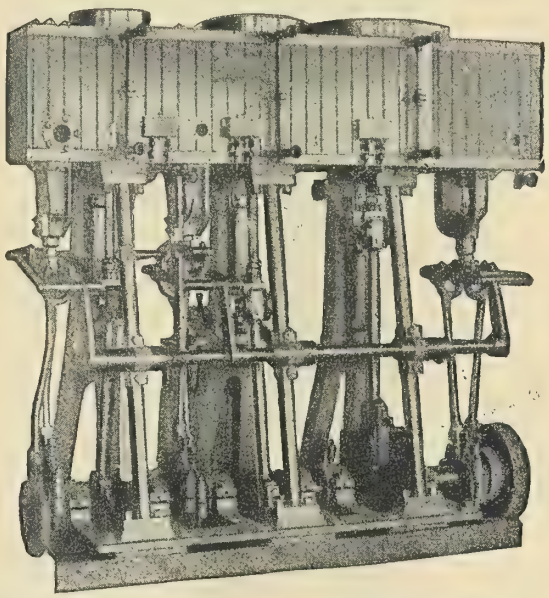

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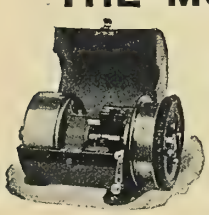

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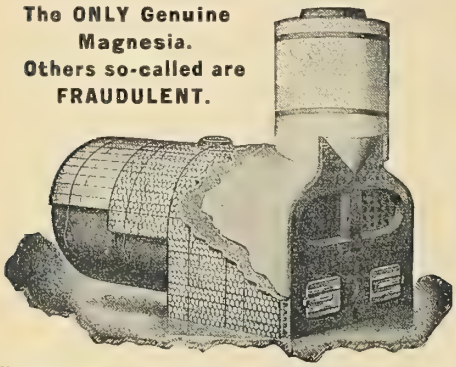

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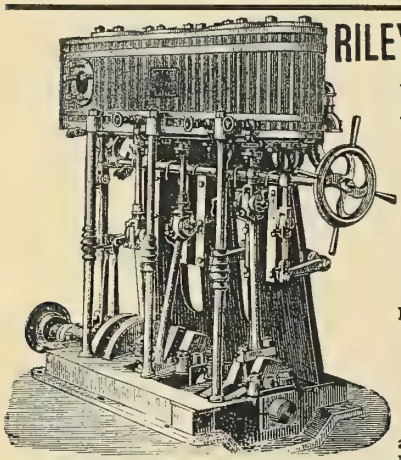

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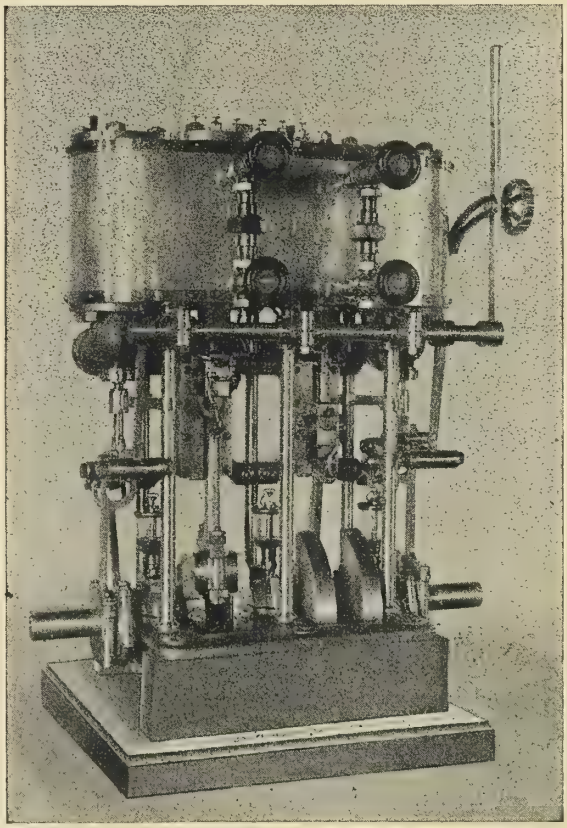

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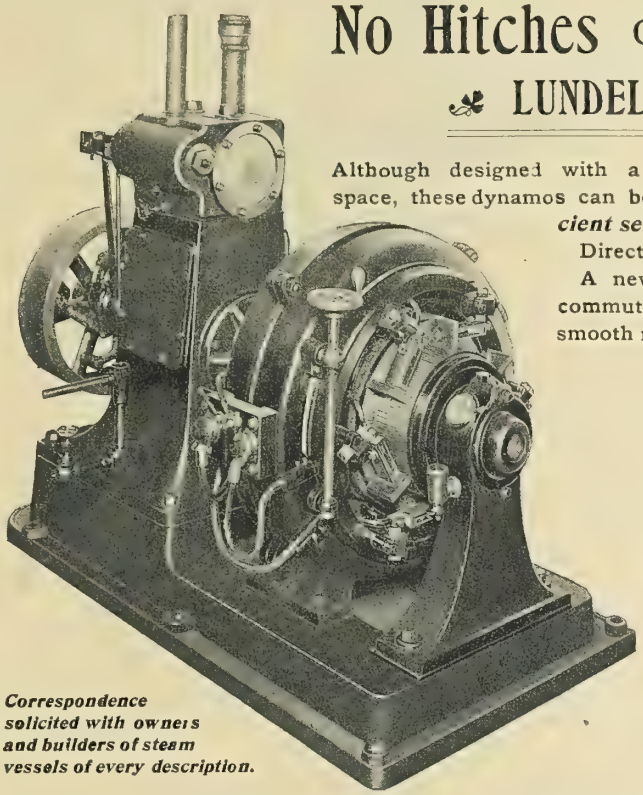

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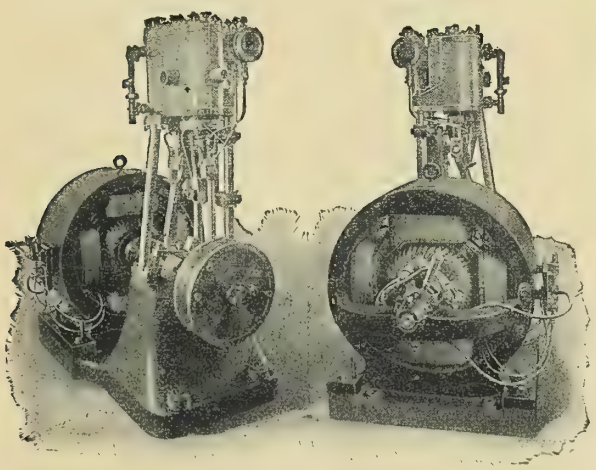

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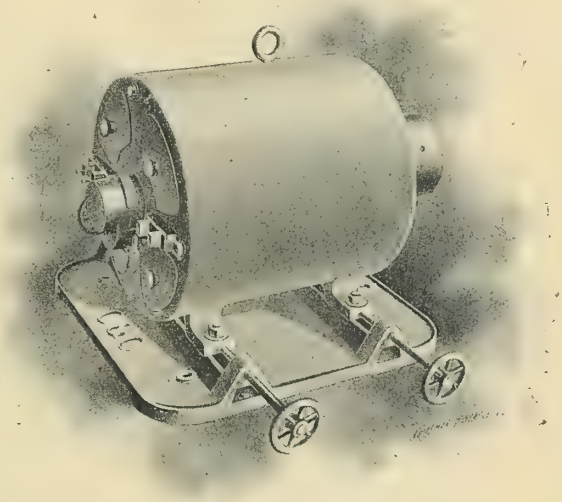

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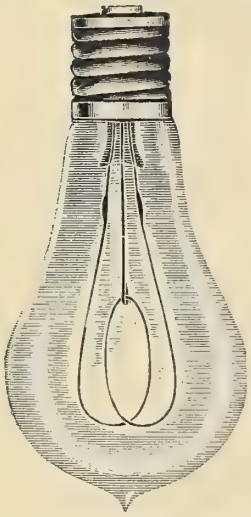

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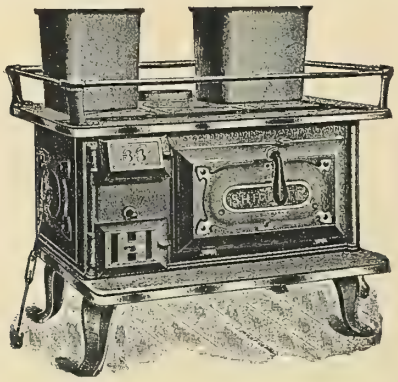

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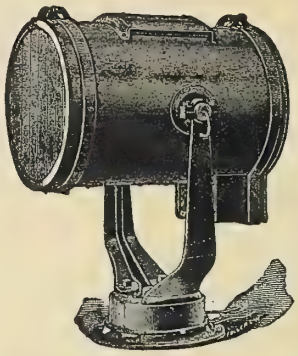

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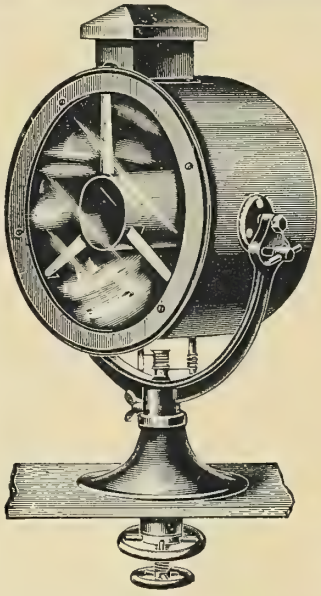

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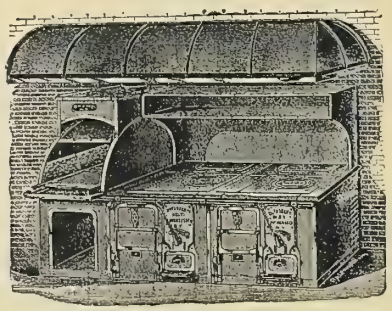

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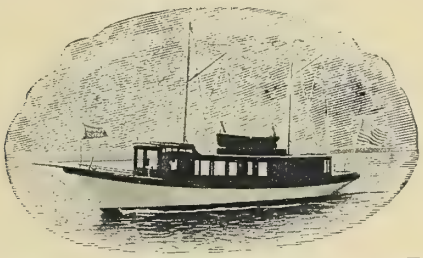

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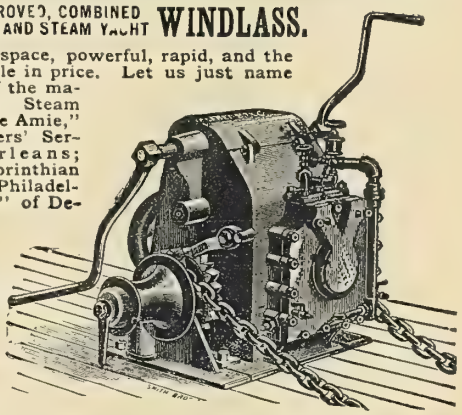

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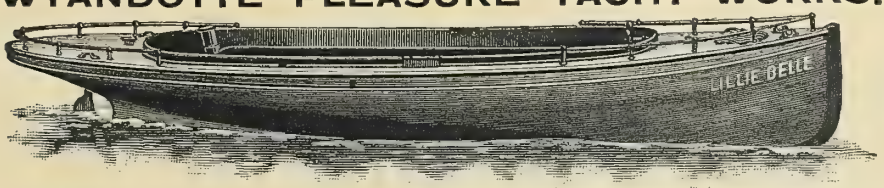

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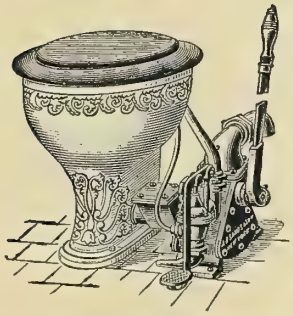

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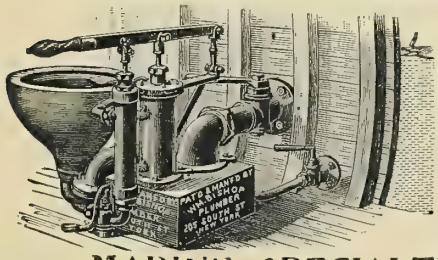

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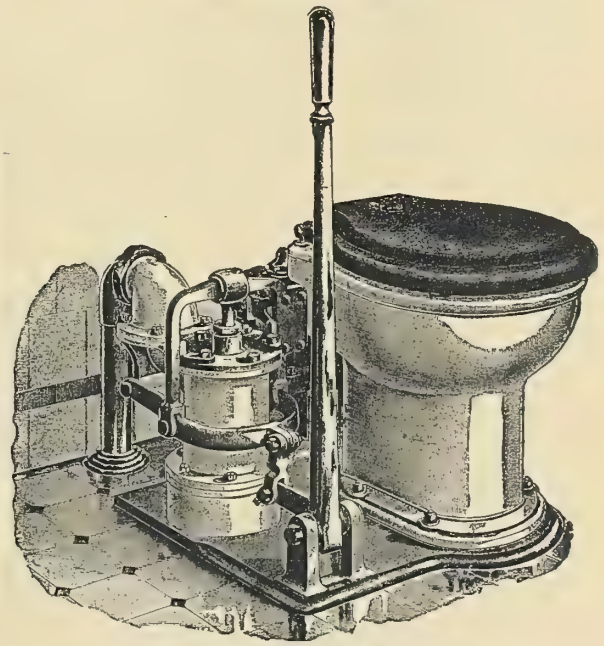

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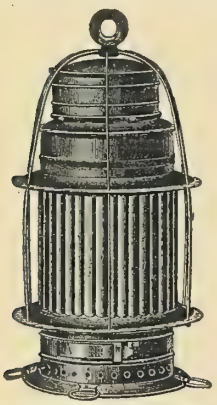

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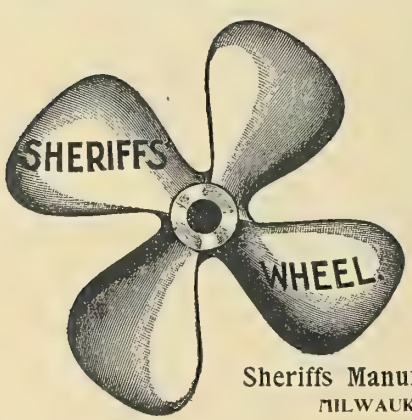

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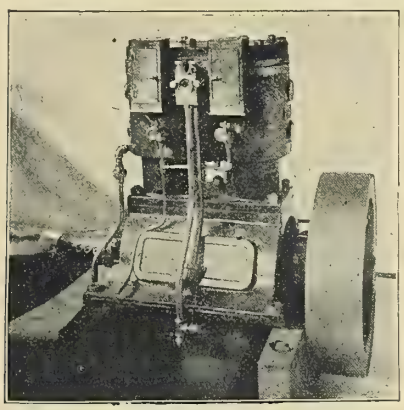

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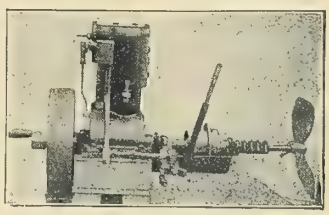

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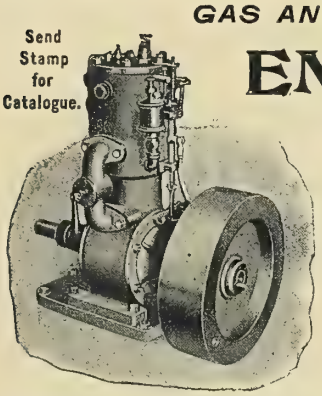

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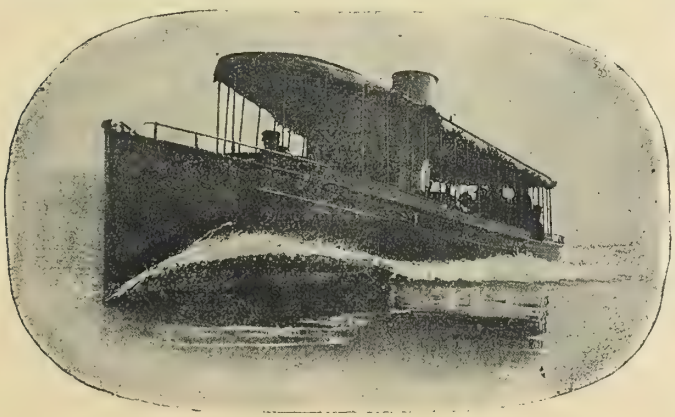

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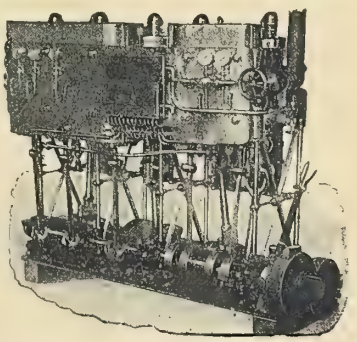

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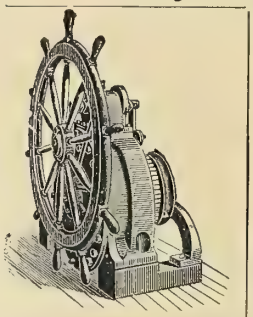

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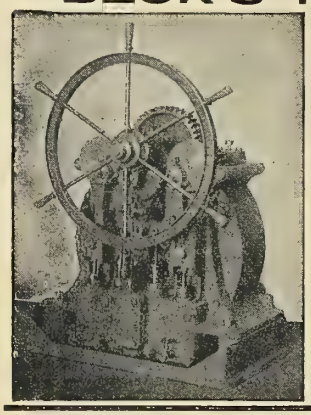

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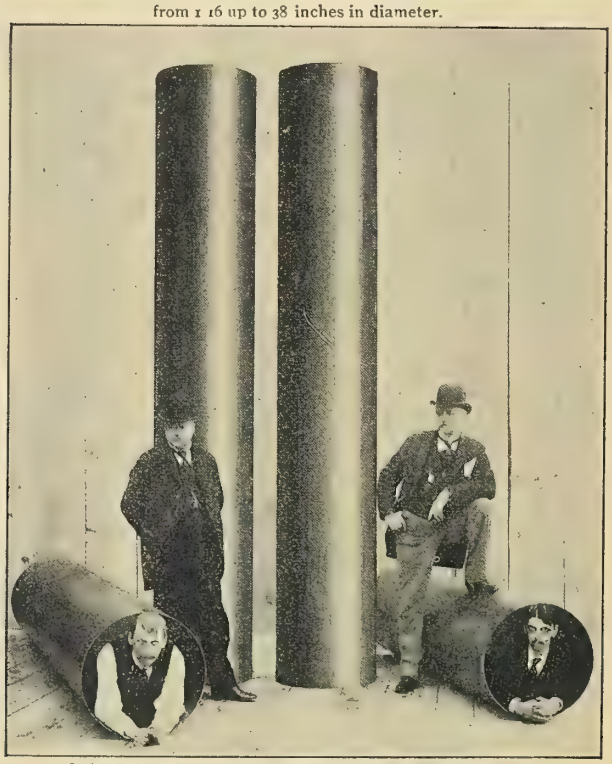

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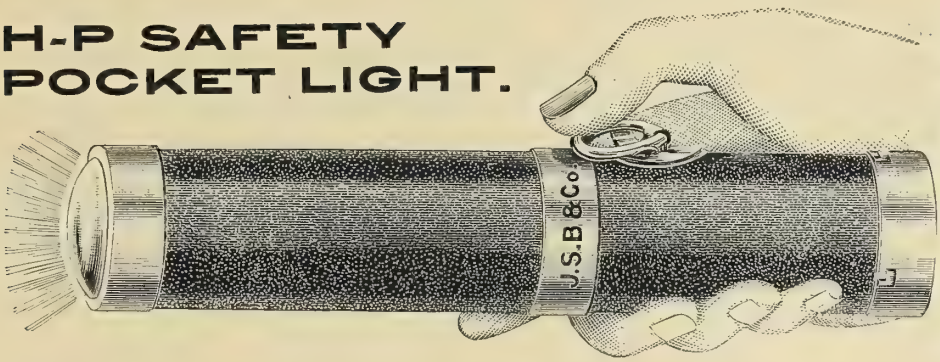

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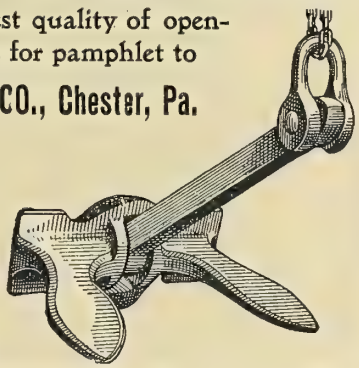

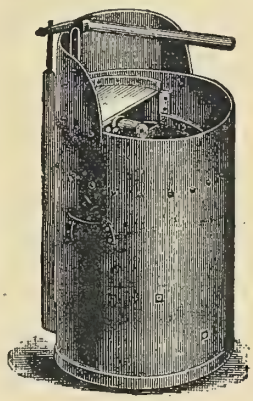

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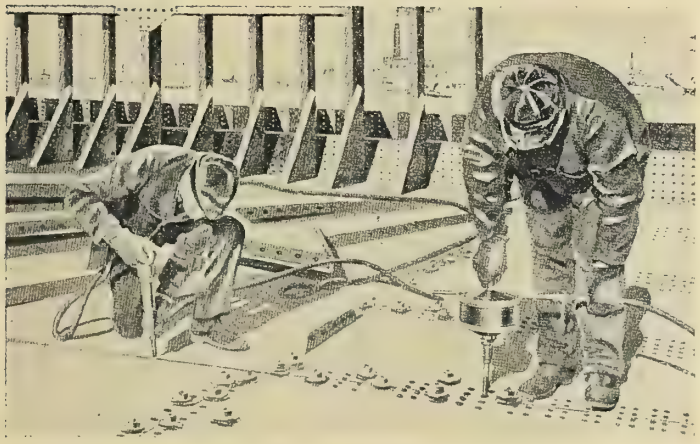

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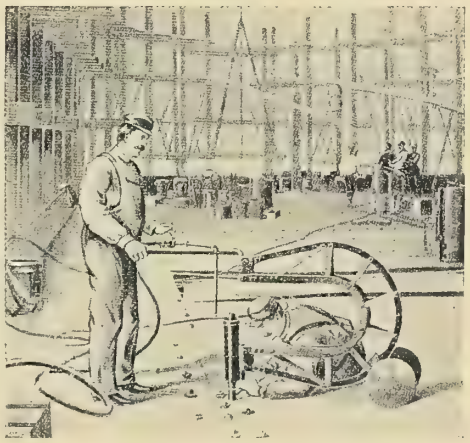

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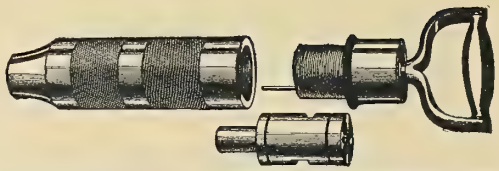

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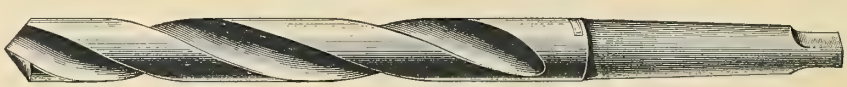

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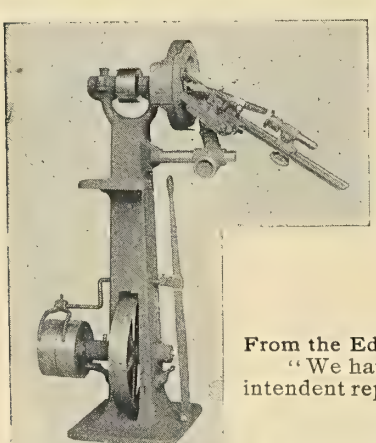

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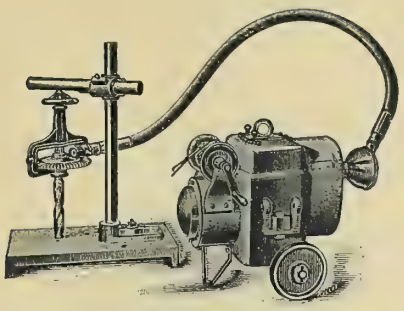

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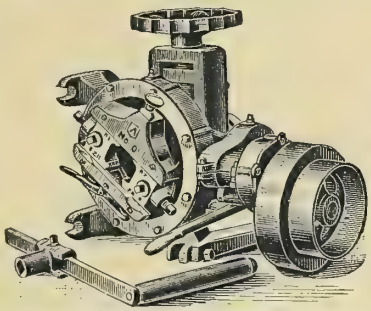

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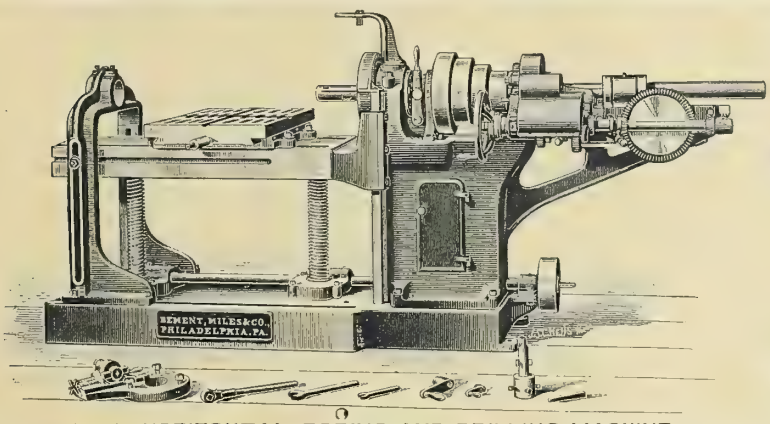

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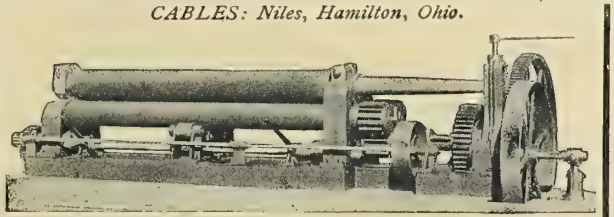

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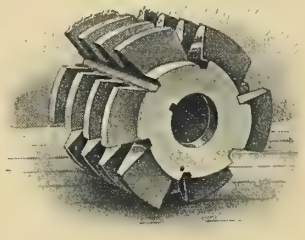

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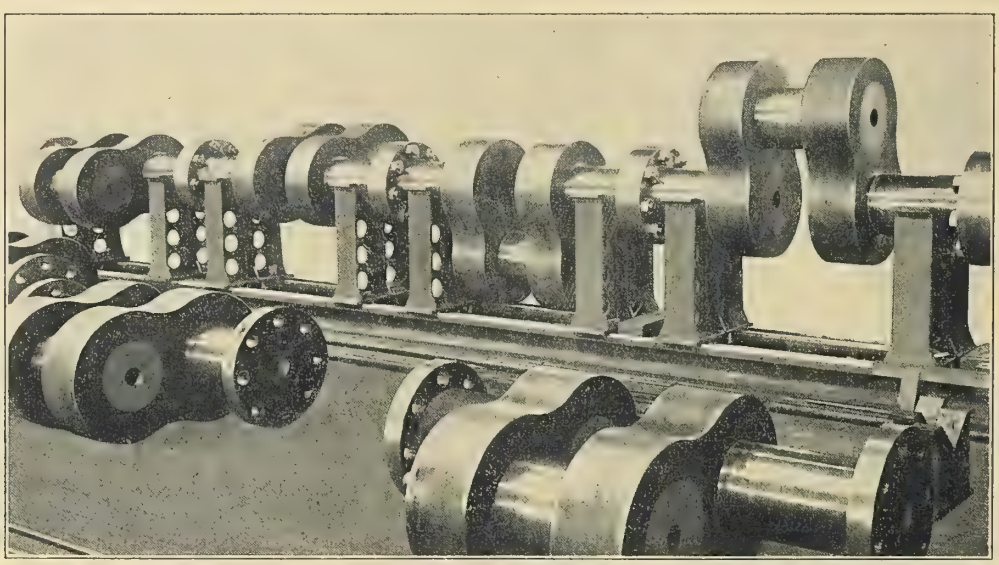

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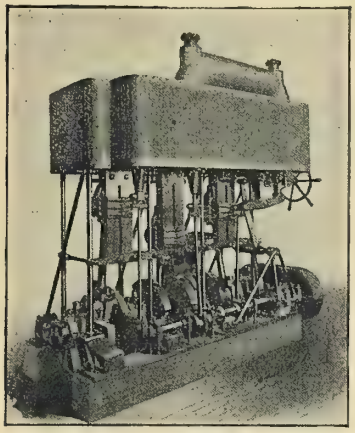

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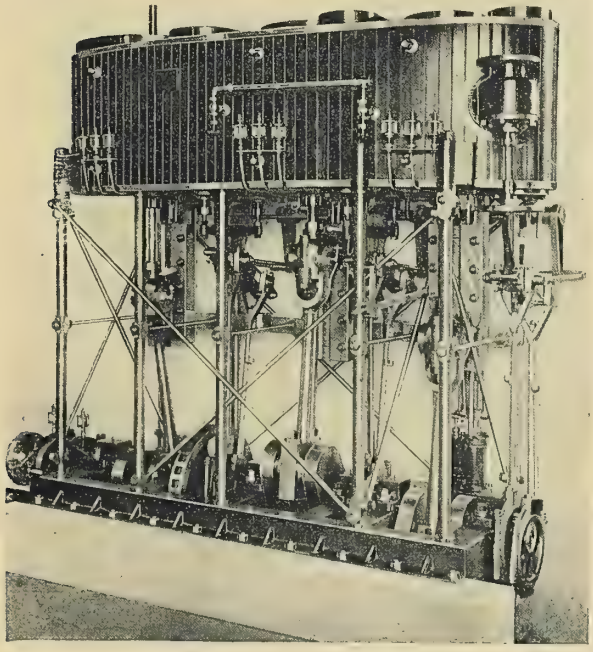

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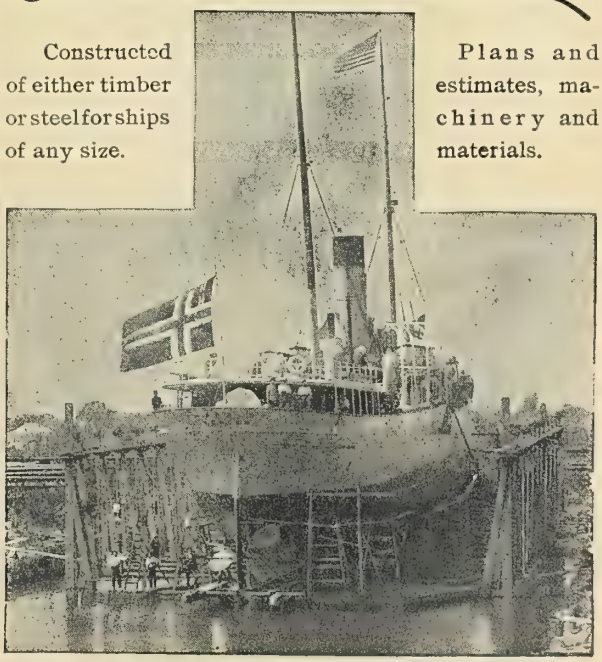

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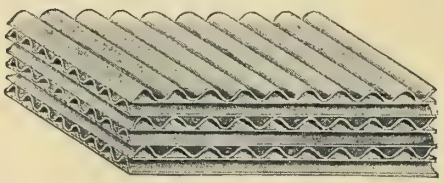

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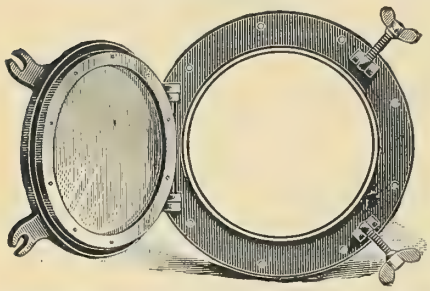

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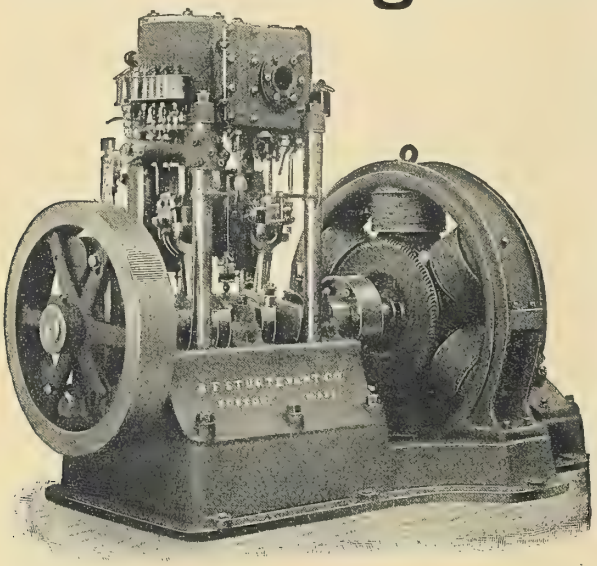

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